
ST. LOUIS DISTRICT HISTORICAL PROPERTIES MANAGEMENT REPORT NO. 62

PHASE II ARCHAEOLOGICAL TESTING OF THE HELMKAMP SITE (11MS2025) IN SUPPORT OF THE PROPOSED GRASSY LAKE PUMP STATION AND ASSOCIATED DITCH WORK, WOOD RIVER DRAINAGE AND LEVEE DISTRICT, MADISON COUNTY, ILLINOIS

Prepared for:

The St. Louis District
U. S. Army Corps of Engineers

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Co-Principal Investigators

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19. ABSTRACT <i>(Continue on reverse if necessary and identify by block number)</i> This report documents the findings of Phase II testing of 11MS2025, the Helmkamp site, in the northern American Bottom in Madison County, Illinois. The legal location of the site, which covers approximately .6 ha (1.4 ac.), is N½, SE¼, SE½, SW¼ and S½, NE¼, SE¼, SW¼ of Section 11, T4N, R9W, Madison County, Illinois. Bear Creek Archeology, Inc., Cresco, IA, conducted the testing under contract with the St. Louis Corps of Engineers. A geomorphic investigation found that the site was situated on and buried within a natural levee. Using a systematic surface coupled with 52 bucket augers and 13 1 x 1 m test units, a light to moderate scatter of prehistoric artifacts and two features were found from the surface to a depth of approximately 120-130 cm. The artifacts and features are associated with four cultural components dating to the Late Woodland, Early Woodland, probable middle to late Late Archaic, and early Late Archaic periods. The two Woodland components have been adversely affected by plowing and other disturbance, and no additional investigations are recommended. The two Archaic components, on the other hand, have greater integrity and contain a moderate scatter of artifacts (including diagnostic points) and cultural features. Avoidance is recommended for these components, which appear horizontally limited to the southwestern end of the site. If avoidance is not feasible, then Phase III data recovery is recommended. On the western side of the ditch a total of seven test units were excavated in all parts of the site, and the paleo-channel of Cahokia Creek was mapped as the western boundary of the site. All components on the western side of the ditch have been extensively damaged by ditch digging and cultivation, and they are judged to be of little or no research value and are insignificant with regard to the NRHP. The pump station could be placed on the western side of the drainage ditch with no additional archeological investigation.			
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MANAGEMENT SUMMARY

This report presents the findings of Phase II archeological testing on the multicomponent Helmkamp site (11MS2025) in the American Bottom of the Mississippi River, Wood River Drainage and Levee District, Madison County, Illinois. This archeological property, slated for possible significant impact by construction of the Grassy Lake Pump Station and associated ditch work proposed by the U.S. Army Corps of Engineers, St. Louis District (SLCOE), was investigated by personnel from Bear Creek Archeology, Inc., Cresco, Iowa (BCA), under terms of SLCOE Contract No. W912P9-04-P-1048. The project scope was to determine the limits of 11MS2025 and evaluate the property against National Register of Historic Places (NRHP) criteria of significance. Fieldwork for this project was conducted in two stages, first during May 17-24, 2004 for testing the main body of the site east of the drainage ditch and then during November 30-December 3 for testing a small lobe of the site on the western side of the ditch.

The Helmkamp site is located approximately 2.4 km (1.5 mi.) south of the community of South Roxana at the northwestern corner of the intersection of Illinois Route 111 and Canal Road, bordering the southeastern edge of an existing drainage ditch within a fallow agricultural field. The legal location of the site is N $\frac{1}{2}$, SE $\frac{1}{4}$, SE $\frac{1}{4}$, SW $\frac{1}{4}$ and S $\frac{1}{2}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$, SW $\frac{1}{4}$ of Section 11, T4N, R9W, Madison County, Illinois. Based on the present investigation the eastern side of the Helmkamp site is approximately 164.6 m (540 ft.) northeast-southwest by 62.6 m (205 ft.) northwest-southeast, encompassing an estimated .6 ha (1.4 ac.), while the western lobe is about 15 x 30 m.

A geomorphic investigation, which included hand coring and Giddings hydraulic coring, found that the Helmkamp site is on a natural levee, an alluvial landform created by overbank deposition on the outside of the Grassy Lake meander. The investigation also produced evidence for a series of buried surfaces within the upper 4 m meters of alluvial deposits. These surfaces, however, had been buried and overprinted by later soil formation, leaving behind a series of buried B horizons below the surface soil. The lower terrace surface west of the site is younger but contains an equal number of deeply buried soils.

The eastern portion of the site was investigated by a systematic surface collection of 2-3 m interval transects where artifacts were piece-plotted with a total station and bucket augers and one square meter test units. Fifty-two bucket augers covered the entire site area east of the ditch, and 13 test units were placed along the long axis of the natural levee and clustered in the southwestern corner of where the surface scatter was densest. On the western side of the ditch a total of seven test units were excavated in all parts of the site, and the paleo-channel of Cahokia Creek was mapped as the western boundary of the site.

Testing east of the ditch produced evidence for four cultural components dating to the Late Woodland Patrick phase, Early Woodland Carr Creek phase, probable middle/late Late Archaic (Titterington to Prairie Lake phases), and probable early Late Archaic

(Falling Springs phase). Only a small portion of the Late Archaic component appears to be relatively intact on the western side of the ditch. Preservation of the components varies from "good to poor". On the eastern side of the ditch the Late Woodland component, which contains relatively little material in limited distribution at the center of the natural levee, has been extensively mixed by plowing. Some lithic artifacts and one pit feature were found below the plowzone, but faunal preservation is very poor in the leached topsoil. A majority of this component appears to have been destroyed by plowing. The Early Woodland component consists of an extremely thin scatter that cannot be separated from the other components, and part of this component has been damaged by plowing at the southern end of the natural levee. Preservation of fauna and flora, not to mention features, seems unlikely in the leached horizons of the topsoil, therefore the condition of the Early Woodland component is judged to be "poor." Component III, a middle/late Late Archaic habitation, appears to be relatively intact, because almost all of it is buried below the plowzone in the southwestern corner of the project area. There are diagnostic artifacts and the potential for features in this third component, however it may mixed with the Woodland components. The fourth component is isolated well below the other three and probably contains intact features with floral and faunal remains. Feature 1, which was identified by an earlier investigation, and Feature 3, a possible hearth/hearth dump found during testing, are likely associated with this component. Two negative aspects of the Late Archaic components are that they lie within a heavily leached Bt horizon, where organic stains will not be obvious, and the question of how much of this component has been damaged by construction of the adjacent gravel road and drainage ditch. Only the two Late Archaic components covering approximately 1,250 m² (.3 ac.) on the eastern side of the ditch are judged to have integrity and research potential necessary for a finding of "potential significance" with regard to Criterion D of the NRHP. Avoidance is recommended for these components. If avoidance is not feasible, then Phase III data recovery is recommended. The Late Woodland and Early Woodland components are judged to be ineligible and no additional investigations are recommended. All components on the western side of the ditch have been extensively damaged by ditch digging and cultivation, and they are judged to be of little or no research value and are insignificant with regard to the NRHP. The pump station could be placed on the western side of the drainage ditch with no additional archeological investigation.

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INTRODUCTION

This report presents the findings of Phase II archeological testing in two stages on the multicomponent Helmkamp site (11MS2025) in the American Bottom of the Mississippi River (Figure 1), Wood River Drainage and Levee District, Madison County, Illinois. This archeological property will be impacted by the construction of the Grassy Lake Pump Station and associated ditch work proposed by the U.S. Army Corps of Engineers, St. Louis District (SLCOE). Consequently, this investigation was required by Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA [<http://achp.gov/act.html>]); Advisory Council on Historic Preservation [ACHP] 1984, 1999), and was undertaken to determine the limits of 11MS2025 and to evaluate the property with regard to National Register of Historic Places (NRHP) criteria of significance. Bear Creek Archeology, Inc. (BCA) of Cresco, Iowa, conducted this testing project for the SLCOE under terms of Contract No. W912P9-04-P-1048 (see Appendix A). This study was conducted in accordance with the NHPA and the Secretary of Interior's standards for the evaluation of historic properties (National Park Service [NPS] 1983). The first stage of fieldwork was conducted on the eastern side of the drainage ditch on May 17-24, 2004. Fieldwork was directed by Joe B. Thompson and David W. Benn, co-Principal Investigators. Benn also conducted the geomorphic investigation. Art Hoppin served as crew chief, and Eyan Bond and Sheri Herold were the crew members. A smaller BCA crew returned with Benn and Thompson between November 30-December 3, 2004 to conduct testing on the western side of the drainage ditch. While the primary focus of the project was the subsurface testing of the Helmkamp site where the pump station was being proposed, BCA personnel also defined the site boundaries beyond the preliminary limits indicated by the earlier investigation (Kolb and Harris 2002), including the western side of the drainage ditch.

Project Location

The Helmkamp site is located approximately 2.4 km (1.5 mi.) south of the community of South Roxana at the northwestern corner of the intersection of Illinois Route 111 and Canal Road (Figure 2). The principal site scatter borders the southeastern edge (left bank) of an existing drainage ditch within an agricultural field, which was fallow at the time of the present investigation (Figures 3-5). A small lobe of the site also extends from the western side of the drainage ditch. The legal location of the site is N½, SE¼, SE¼, SW¼ and S½, NE¼, SE¼, SW¼ of Section 11, T4N, R9W, Madison County, Illinois (Figure 2). Based on the testing investigations, the Helmkamp site is approximately 164.6 m (540 ft.) northeast-southwest by 62.6 m (205 ft.) northwest-southeast on the eastern side of the ditch (estimated .6 ha, 1.4 ac.), and roughly 30 m (96.8 ft.) by 15 m (49.2 ft.) covering an area of about .16 ha (.4 ac.) on the western side of the ditch (Figure 3). This size reflects only the cultivated portion of the site, and it is possible that additional parts of the site extend south beneath Canal Road.

Project Premises

The primary goals of the archeological testing are based on the Secretary of the Interior's standards for identification and evaluation of historic properties (NPS 1983) as well as the guidelines offered by the Illinois Historic Preservation Agency for determining site significance. While an archeological survey is intended to identify cultural resources within a given area, archeological testing is intended to evaluate cultural resources against the NRHP criteria of significance.

The following report details the methods and results of the archeological testing of the Helmkamp site, provides descriptions of archeological deposits including geomorphic context, evaluates the site components with regard to NRHP criteria of significance, and contains recommendations regarding the site's potential NRHP eligibility. The site is evaluated for NRHP significance under Criterion D, i.e., the potential for a prehistoric site to yield important scientific information. This testing included intensive investigation for features (e.g., hearths, pits, middens, etc.) and intact cultural deposits below the plowzone. The vertical and horizontal limits of the cultural components, their respective ages, and relative integrity are evaluated. Finally, the site is assessed with respect to cultural processes, various occupations through time, and natural site formation processes.

Project Background

The Helmkamp site, named for the landowner, was originally identified during a geomorphic/archeological investigation conducted for the proposed Grassy Lake pump station on the eastern side of the drainage ditch (Kolb and Harris 2002). The site was identified by a scatter of artifacts on the surface and later investigated by a systematic 3 m (9.8 ft.) interval pedestrian survey and excavation of three backhoe trenches to a maximum depth of about 1.6 m (5.3 ft.). Five soil borings were also advanced as part of the geomorphic evaluation by Kolb.

The pedestrian survey defined the surface limits of the site on the eastern side of the ditch and identified an area of greatest concentration of artifacts in the southwestern corner of the agricultural field. Backhoe trenches exposed artifacts below the surface to a minimum depth of 60 cm in all trenches, and at approximately 120 cm in Trench 2. A cluster of flaking debris with calcined bone and some charcoal at the western end of this trench was identified as Feature 1 (Kolb and Harris 2002:5-6).

This initial investigation identified at least two cultural components dating to Woodland and Archaic eras. The presence of Woodland habitations was based on a few eroded, sand tempered potsherds that could date to the Early-Middle Woodland periods. (Another opinion offered by the analyst suggested the sherds were from the Late Woodland period.) A Late Archaic component was suggested by a contracting stemmed point resembling the Nebo Hill type. Most of the cultural debris was found in two broadly defined zones between 0-60 cm and between 100-125 cm (Kolb and Harris 2002:5-6). Complicating the interpretation of the cultural components was the

widespread evidence for bioturbation (mostly crayfish burrows) observed in the trenches coupled with the apparent lack of well developed soil profiles. Redox conditions, including heavy gleying, were commonplace (Kolb and Harris 2002).

Previous Investigations in the Vicinity

Because the Helmkamp site is situated in the American Bottom several kilometers north of the I-270 route and a few kilometers west from the proposed 310 route and is listed as the 2,025th site recorded in Madison County, it is reasonable to conclude that substantial previous archeological work, including data recovery, has been conducted within the region. Since a full account of all this work is beyond the scope of a testing project such as this, the review of previous investigations and reported sites was limited to a 1.6 km (1 mi.) radius of the site. Even then, several sites and investigations are listed in the literature obtained from the Illinois State Museum (see Figure 6). Summary information on the sites is presented in Table 1, and previous investigations are tabulated in Table 2. Most of the previous investigations were Phase I surveys as part of compliance projects. To the east beyond the limits of the record review are a series of testing and data recovery projects associated with the FAP-310 highway corridor project, including investigations at the Ringerling site (Evans et al. 2000) and Floyd site (Evans et al. 2001).

Table 1. Previously recorded sites within 1.6 km (1 mi.) of the Helmkamp site.

Site (name)	Cultural Affiliation	Reported Inventory	References	Site Type	Site Size
11MS67 (Wagon Wheel)	Late Archaic Late Woodland Early Woodland	flaking debris Koster point FCR, biface	Brandt and Cartmell 1977 Harn 1962 Wells 2000a Witty 2000 Witty 2001a	camp habitation	9 ha
11MS686 (Hwy. 111)		flaking debris flake-tool	FAP-765 Crew- Hammer 1976a	unknown	unknown
11MS687 (Eva)	Woodland	pottery biface mid-section point base, tip flake-tool, perforator, blade groundstone, FCR	FAP-765 Crew- Hammer 1976b	village	1.2 ha
11MS688 (Town Lot)	unknown prehistoric	groundstone burnt clay, FCR biface blade drill fragments flake-tools straight stemmed point, rodent skull	FAP-765 Crew- Hammer 1976c	camp	1.08 ha
11MS902	unknown prehistoric	Bifaces, flake-tools FCR chert flaking debris, rock misc. historic	Noyes 1981	habitation	min. 1.07 ha

Table 1. Previously recorded sites within 1.6 km (1 mi.) of the Helmkamp site, continued.

Site (name)	Cultural Affiliation	Reported Inventory	References	Site Type	Site Size
11MS1853 (Mr. Destructo)	unknown prehistoric	flaking debris blade fragment, FCR	Witty 1998a	unknown	446 m ²
11MS1953	unknown prehistoric	flaking debris?	Markman and Hajic 2000a	unknown	733 m ²
11MS1977 (Radio Flyer)	unknown prehistoric	flaking debris	Witty 2001b	isolated find	
11MS1978 (Conestoga)	unknown prehistoric historic	biface fragment flaking debris? historics	Witty 2001c	unknown house?	4.5 ha
11MS2018 (J-Ladybug)	Mississippian Late Archaic	pottery flaking debris flake-tools, metate scraper, point blade fragments biface fragment bone	Pond 2001 Craig 2002	unknown	2.2 ha

Table 2. Previous investigations within 1.6 km (1 mi.) of the Helmkamp site.

Survey No.	Type of Investigation	Area Surveyed	Reference	Sites
248	Phase I survey	1.6 ha	Westover 1981	11MS902
946	Phase I survey	5.3 ha	Simon 1986	
3607	Phase I survey	90.3 ha	DeMott 1991	
2296	Phase I survey(?), artifact inventorying		Linder et al. 1978	11MS67
2509	Phase I survey	1.2 ha	DeMott 1988	
5511	Phase I survey?		no documentation	
7239	Phase I survey	24.9 ha	Wells 1996	
9574	Phase I survey	2 ha	Witty 1998b	11MS1853
10325	Phase I survey	13 ha	Wells 2000b	
10358	Phase I survey, geomorphic assessment	46.5 ha	Markman and Hajic 2000b	
11142	Phase II testing		Markman et al. 2000	11MS1953
11424	Phase I survey	1.1 ha	Witty 2001d	
11940	Phase I survey	ca. 8.1 ha	Wells 2001	11MS67
12496	Phase I survey	4.5 ha	Witty 2001c	11MS1977 11MS1978
99999	unknown		not reported	

GENERAL CULTURAL CONTEXT

The cultural chronology in the American Bottom has been the subject of considerable archeological work during the last four decades (e.g., Baresis and Porter 1984). This work resulted in a fairly well-defined sequence of cultural periods beginning with the arrival of Europeans to the Mississippi Valley back through several thousands years of

prehistory. One of the more recent versions of this chronology from the immediate vicinity was presented in the Ringerling site report (Evans et al. 2000:Figure 1.3) and is reproduced as Figure 7. While using broad Paleoindian-Archaic-Woodland-Mississippian/Oneota-Historic period designations, which are general divisions widely used throughout the Midwest, it is the phase designations within these periods that have been a subject of considerable archeological work and debate. Not surprisingly, considering the American Bottom is home to Cahokia and a number of large Mississippian sites, it is the latter part of prehistory that is most well understood, or at least more finely divided into discrete phases. As one moves farther back in time, especially before the Emergent Mississippi Period, the phase designations encompass longer swaths of time. Eventually, by the Middle Archaic period only a single phase, labeled as "Nochta" and positioned roughly in the middle of the period, is recognized.

The general cultural context based on the Phase I work is Woodland (Early or Late?) and Archaic (Late?). The present investigation produced additional diagnostic artifacts to further refine the chronological position of the cultural components: Component I-Late Woodland Patrick phase; Component II-Early Woodland Carr Creek phase; Component III-probable middle/late Late Archaic (Titterington to Prairie Lake phases); Component IV-probable early Late Archaic (Falling Springs phase).

GENERAL ENVIRONMENTAL SETTING

The Helmkamp site is located on the Mississippi Valley floor in the northern part of the American Bottom (Figure 1) in Grassy Lake, a low, occasionally swampy area formed by now abandoned and aggraded river channels. The site is situated on the northern side of the Cahokia Creek diversion channel and approximately 4.8 km (3 mi.) east-southeast of the present mouth of the Missouri River. Beginning ca. 14,000 years ago, the regional environment transitioned from the spruce and pine open forest conditions of the late Pleistocene to mostly deciduous forests of oak and hickory in the uplands and cottonwood and willows on the floodplains. Scattered patches of prairie would have also been present and this broadly defined pattern generally held throughout much of the Holocene into modern times (F. King 1984; J. King 1981; White et al. 1984). However, the boundary between the forest, which is mostly confined to river valleys and adjoining parts of the uplands, and the surrounding prairie fluctuated over time. This became most apparent during the Middle Holocene, or about 7000-5000 B.C., when drier and warmer conditions prevailed and forests contracted and grasslands expanded (Delcourt and Delcourt 1981; Webb et al. 1993). Locally, low swampy areas would have dried out, with grasses and other nonaboreal plants replacing the former regime of water tolerant vegetation. Floodplain forests, while still present, may have become patchier, a pattern that would significantly impact what food resources were locally available (Neusius 1986).

GEOMORPHOLOGICAL CONTEXTS

Because geologic processes are the baseline for determining the geographic and pedologic character (landforms) of a region, an understanding of an area's geologic history is crucial to any evaluation of the archeological record. Landform and soil characteristics have a strong influence on the presence and distribution of the plant and animal communities utilized by human populations. In this way geological processes not only affect the patterns of human settlement, they are also largely responsible for the preservation and destruction of the archeological record. We view the archeological record as a product of both cultural and geological processes (Bettis and Thompson 1981). Such a perspective on the location of human occupation sites allows the investigator to create predictive models of archeological site occurrence and patterned distribution within a given area relative to the existing landforms within that area (cf. Bettis et al. 1996; Bettis and Benn 1984; Hajic 1993; Saucier 1994). Specifically, this approach is useful for recognizing post-settlement alluvium (PSA), made land, plowzones (Ap horizon), and other disturbances that may have modified the landforms under investigation as well as for realizing the potential for deeply buried sites.

The purpose of the geologic/pedogenic investigation at the Helmkamp site is to develop a natural context for the disposition of archeological remains. The project area is a depositional context, i.e., alluvium, which has been extensively studied in the Upper Mississippi River valley (Bettis et al. 1996; Hajic 1993). Thus, the depth of various archeological components and their relative ages are predictable in the light of basic knowledge about the geological processes that formed this valley. The American Bottom in particular is a fascinating area for research with regard to the relationships between landform evolution and human settlement for three reasons: a) the Mississippi Valley is wide enough to accommodate wide-ranging lateral movements (meandering) of the river channel and leave remnants of older landforms; b) the Illinois and Missouri Rivers empty into this reach of the Mississippi Valley, contributing large amounts of sediment to the total alluvial package; c) human settlement was extensive and intensive throughout prehistory in this river bottom. The presence of remnants of glacial outwash terraces (e.g., Savanna Terrace, Kingston Terrace, East Chouteau surface; Hajic 1993:55-58) and Holocene sediments on the Low Terrace (Hajic 1993:58) indicate that the evidence could have been preserved for the earliest human occupations of this bottom. Hajic (1993:63) made a point of noting that the relative paucity of recorded Middle Archaic and older archeological sites in the American Bottom seemed to be due to the deep burial of evidence and relative lack of systematic probing (drilling) of alluvial landforms during archeological surveys. Investigation of the Helmkamp site offers one opportunity to probe a small area of this alluvium for deposits of the Archaic culture periods.

Soil Analysis

Previous geomorphological investigations in the Helmkamp locality provide a baseline of information for the present investigations. Hajic et al. (2000:65-117) conducted detailed geomorphological/pedogenic analyses at the Ringerling site located on a higher terrace

and alluvial fan less than 3.2 km (2 mi.) east of 11MS2025 and defined the Holocene landforms used for the research in the locality.

The Helmkamp project area is on an extensive floodplain termed the Alluvial Fan/Low Terrace, a Holocene age landform created by sediments from the Missouri River and from the alluvial fan of Cahokia Creek (Figure 8). Subsequent to the Hajic study, Kolb drilled five Giddings solid cores and opened three short backhoe trenches on 11MS2025 to investigate the subsurface stratigraphy (Kolb and Harris 2002). Kolb's cores reached depths of 4-5.8 m (13.1-19 ft.) in Holocene alluvium but did not penetrate any Lake Superior source red clays that cap the East Chouteau paleogeomorphic surface of terminal Pleistocene age. Absence of this diagnostic red clay layer indicates the project location lies within the buried Grassy Lake Meander, an early-middle Holocene meanderbelt of the Mississippi/Missouri Rivers (Hajic et al. 2000:72). Kolb's formal soil descriptions of the cores and backhoe trench profile walls consist of a surface soil (Ap-AB-Bg-Cg or Ap-AC-Cg) in the upper 1.6 m (5.3 ft.) with largely undifferentiated Cg horizons extending to the bottoms of the cores (Kolb and Harris 2002:Appendix A). This soil description is not much different from the modern soil survey description of Darwin silty clay (Goddard and Sabata 1986), a poorly to very poorly drained soil formed in alluvium that is mapped for this location. Gleying of the lower sedimentary profile and proposed channelizing by former courses of Cahokia Creek account for the absence of recorded paleo-surfaces in Kolb's soil descriptions (Kolb and Harris 2002:7).

When BCA personnel arrived at the Helmkamp site, we noticed that the cultural deposits were distributed across a low, linear ridge paralleling the modern drainage channel that had been cut along one of the prehistoric meander channels of Cahokia Creek (Figures 1 and 9). This ridge resembles a natural levee, but one that is too large for the size of Cahokia Creek. Instead, the orientation of this natural levee parallels the scroll bars of the buried Grassy Lake Meander system, thus this levee probably formed as the Missouri/Mississippi River channel shifted within its meanderbelt. Natural levees are accretionary deposits, and alluvium from tributary fans like Cahokia Creek also tends to spew outward in pulses of geological time. It is logical, therefore, to anticipate that the 4+ m (13+ ft.) of Holocene age alluvium at the Helmkamp site location should contain some textural stratification as well as paleo-surfaces (soils). It does.

A representative soil profile for the Helmkamp site (Appendix B) has been developed by combining descriptions from most of the test units (as deep as 1.1 m [3.6 ft.] depth) with analysis of one inch hand cores and Giddings Core 1 of the deeper sediments. The analyst (Benn) found it necessary to combine the results from several test units into a master profile, because units at the southern end of the site had truncated A-AB-B1 horizons (Figure 10) and units at the northern end could not be excavated into the lower profile of the surface soil due to a high water table (Figure 11). Likewise, sediments deeper than 2 m (6.6 ft.) below surface could be analyzed only a general sense for soil structure due to soggy conditions. Fortunately, significant variations in this soil profile were not detected among the test units, except that the layer of coarser material (sand) in the 2Bw horizon varied in thickness. The representative profile includes a topsoil (Ap-AB-B1wg-B2t-B2tg(Ab)-Btgb-BCgb) that developed to a depth of 130 cm through a

buried A horizon (Ab). This Ab horizon, which appeared between 64-80 cm depth in the southern test units (Figure 10), has been overprinted by the argillic horizon of the surface solum. Below this topsoil is a fairly well developed buried soil (Abgb-Bwgb) beginning between 130-140 cm below surface (slightly deeper on the northern side of the site). This soil and the deeper soils are not marked by contrasting colors due to heavy gleying of the entire profile, therefore soil horizons must be identified by variations in structure. The second buried soil (2AB?gb-2Bwgb) occurs at roughly 170-180 cm below surface well within the water table.¹ This one was somewhat difficult to define owing to the stickiness of soil in the cores. The sediments between 155-355 are uniform and saturated, making it difficult to define with certainty another buried (3Bwb) horizon at roughly 230 cm. A dark gray (5Y 4/1) saturated soil horizon (4Ab) occurs at 355 cm above massive fine sands, which may be channel deposits. This 4Ab horizon has the characteristics of a wetland sediment high in organic material. A piece of partially burnt wood was recovered from the Giddings core at a depth of 355 on top of this soil. A radiocarbon assay on this wood produced an age of 3970 ± 110 B.P. (ISGS-5722).

Geoarcheological Contexts

The soil column at 11MS2025 is notable for exhibiting an overprinted buried surface (Ab) at about 75-80 cm in the Bt horizon of the topsoil in addition to at least four deeply buried soils at about 130 cm, 170 cm, 230 cm, and 355 cm below surface. The first buried soil (ABgb) is a fairly prominent solum with a moderately developed structure. If heavy gleying had not obscured the color contrasts, this soil likely would have had a darker color than the overlying BC horizon. The second and third buried soils are little more than structural B horizons, where color within the Ab horizons has been mostly leached. Such structural Bb horizons seem to be typical of heavily leached, southern Midwest soils, where lengthy growing seasons (+220 frostless days) and substantial rainfall (+35 in.) are characteristic. The author (Benn) has observed "colorless" structural Bb horizons in deep Holocene sediments of southwestern Missouri.

Some of the soil columns Hajic and others drilled from the alluvial fan sediments near the Ringering site exhibit characteristics similar to the representative profile from the Helmkamp site. In particular, transects B, H, and parts of F (Hajic et al. 2000:Figures 4.18, 4.26, 4.30) illustrate a series of buried soils developed in Cahokia Creek and Missouri River alluvium extending to depths of 2-3+ m (6.6-9.8 ft.). In these profiles the upper buried soils have somewhat darker color values than the Helmkamp soils, probably owing to less intense gleying and better drainage in the vicinity of Ringering. Note especially the well developed structural Bb horizons in Hajic's profiles and how they compare favorably to the profiles from Helmkamp. Also, focus attention on the first two buried soils in transects B and H (Hajic et al. 2000:Figures 4.17, 4.29). Soil "w" (2Atb₁) is welded within the topsoil and occurs at roughly the same depth as the B3tg(Ab) horizon at Helmkamp. This probably represents an equivalent soil formation episode at the Ringering and Helmkamp sites. The second paleosol "yx" (3Ab) occurs at roughly 1.5 m (4.9 ft.) depth (1-2 m [3.3-6.6 ft.] variation) in Hajic's profiles and appears to be equivalent to the 2ABgb horizon at Helmkamp. Hajic et al. (2000:111-112) date

¹ Compression in the coring tube causes depth estimates to approximate.

aggradation of most of the Missouri River Fan and formation of the Grassy Lake meander between ca. 9500-3400 B.P. Our date from Core 1 on the northern end of the Helmkamp site is 3970 ± 110 B.P. This fits with the formation of paleosol "yx" probably dating within the millennium prior to ca. 3400 B.P., while paleosol "w" is estimated to have formed by ca. 2850 B.P.

These dates on paleosols from the Ringering investigations match well with the evidence from Helmkamp. The topsoil (AB-Bw) formed during the Woodland periods and throughout the Historic period. Pits with darker fill and Late Woodland pottery at Helmkamp conform with this chronology. The overprinted soil in the Bt (Ab) horizon probably predates ca. 2800 B.P., and BCA recovered Early Woodland pottery and projectile points from roughly the same context as the "surface" of this soil horizon. Terminal Late Archaic material probably rests within the soil as well. The deeper soil (ABgb) likely dates to the early half of the Late Archaic period. Anything within the lower Bwgb horizon or within deeper soils at this site may date to the Middle Archaic period. Considering the situation of intensive leaching in the (Ab) horizon, it seems likely that features at this level and deeper levels will not retain any organic (darker) color values and, therefore, will be difficult to define in an archeological excavation. On the other hand the soil pH values seem to be near-neutral in the deeper levels of the profile, making it possible for faunal and possible shell remains to be preserved. Carbon also will be preserved in deeper levels, however leaching and turbation processes tend to damage carbon remains to a greater extent than bone in situations of basic soil pH.

Late in the year during our second visit to the Helmkamp site, a core (GP1; Figure 3) was placed in the floodplain about 75 m (246.1 ft.) west of the site boundary. This soil profile (Appendix B) exhibits a well developed topsoil and several deeply buried soils, but the colors in this soil profile are somewhat darker than those from the higher (i.e., Fan/Low Terrace in Hajic's terminology) terrace indicating this floodplain is younger (probably Late Holocene era). Note that the pre-settlement surface in this soil profile is covered by a layer of PSA, a typical stratigraphic arrangement for Late Holocene terraces in the Upper Mississippi Valley (see Bettis et al. 1996).

INVESTIGATION METHODS

Prefield Methods

Before the start of the fieldwork, background archeological and geomorphological information on the site (Kolb and Harris 2002) and surrounding region was consulted (e.g., Evans et al. 2000; Evans et al. 2001; Hajic 1993; Hajic et al. 2000). Background literature on sites and previous investigations within a 1.6 km (1 mi.) radius of the Helmkamp site was also obtained from the site records at the Illinois State Museum. This review allowed the investigators to become familiar with the regional geologic and archeological contexts. BCA personnel also contacted JULIE, the Illinois one-call system for underground utilities and other buried facilities, the property landowner, and

personnel from the SLCOE. A local backhoe operator was also contacted for possible stripping of the plowzone.

Field Methods

There were four methods of archeological investigation for this project: surface collecting, bucket auger excavation, 1 x 1 m (3.3 x 3.3 ft.) test unit excavation, and drilling with a Giddings hydraulic solid core. Surface collecting involved a 2-3 m (6.6-9.8 ft.) interval pedestrian survey across the entire project area for the proposed pump station, including environs outside the Phase I limits of 11MS2025 and on the western side of the drainage ditch. East of the drainage ditch all artifacts were pin-flagged during the surface collection, mapped by a total station, and placed in individual collection bags. The total station was also used to establish three permanent datums, record elevations for a contour map of the eastern side of the site, and record the locations of all subsurface tests. The datum locations were recorded using global positioning equipment so the investigation results may be referenced to SLCOE plans.

The subsurface investigation involved excavating bucket augers and test units. The bucket augers were placed in transects at maximum 15 m (49.2 ft.) intervals across the eastern site area and adjoining environs (Figure 3). These auger tests were excavated in arbitrary 10 cm levels to a minimum depth of 130-150 cm below surface, or generally below the water table, and the removed soil matrix was screened through $\frac{1}{4}$ in. hardware mesh. A single transect of bucket augers (Line B in Figure 3) set along the long axis of the natural levee holding most of the site was excavated to approximately 210 cm to probe for deeply buried components. It was along this general line that most of the 1 x 1 m (3.3 x 3.3 ft.) test units were excavated in May along with additional units in the southern end of the site area, where cultural debris was most dense. Units were opened by removing the plowzone as a single excavation layer usually 20-28 cm thick. The remainder of the 10 cm level (e.g., 26-30 cm) was then excavated, with the artifacts bagged separately from those of the plowzone, and subsequent layers were dug by 10 cm arbitrary levels. The levels of individual artifacts found below the plowzone were recorded to the nearest centimeter below surface, so their location within the soil profile could be accurately identified. The pit features were cross-sectioned, mapped, and sampled according to standard methodology.

During our second visit at the end of November, the site surface west of the ditch was extremely wet. Surface collecting involved random walkovers and collecting of all visible artifacts. Seven test units were excavated across the entire zone of the surface scatter and just beyond the scatter's western and northern boundaries (Figure 3). Excavation proceeded as indicated above.

Wall profiles were recorded for most test units on the eastern and western sides of the ditch, and Benn described several in detail to form the master soil profile presented in Appendix B. Recording actual depths of artifacts to the nearest centimeter allow for the precise determination of where cultural material occurred in the soil profile.

Post-Field

After completing the fieldwork, the artifacts and soil samples were returned to the BCA laboratory in Cresco, Iowa, for processing. Soil samples were processed by technicians using accepted flotation procedures (see Pearsall 1989). Artifacts found during the surface collection, bucket augering, and test unit excavation were processed, analyzed, and cataloged. Laboratory technicians washed and sorted the artifacts into general categories (e.g., flaking debris, chipped stone tools, cobble tools, fire-cracked rock [FCR], pottery, bone, etc.), report authors analyzed the materials, and the laboratory director cataloged and prepared the assemblages for curation. John Helmkamp, Jr., the site landowner, signed a consent form for the materials to be curated at the Illinois State Museum, Records and Collection Center in Springfield, Illinois. A supplemental site form (see Appendix C) was also completed and filed with that same office as part of the report preparation.

Upon completion of the fieldwork in May, the co-principal investigators prepared a preliminary letter report summarizing the testing results for immediate submission to the SLCOE (see Appendix A). This letter contained preliminary recommendations based on the known site integrity on the eastern side of the drainage ditch. Afterward, a draft report was prepared further detailing the testing results, including the analysis of the artifacts, methods used for testing, and other relevant background information. However, the draft did not pass through the SHPO review process before BCA was contracted to return to the site to test its western boundary in late November. Therefore, the draft was revised with newly acquired information and resubmitted.

INVESTIGATION RESULTS

The BCA investigations, which spanned the periods of May 17-24 and November 30-December 3, 2004, were hampered by heavy rains during the first two days and subsequently by a high water table. Rain during May resulted in cancellation of planned excavation by a backhoe, and the high water table prohibited test unit excavation deeper than 130 cm below surface. Nonetheless, testing produced enough diagnostic artifacts to identify three and perhaps four cultural components and to trace the horizontal site limits. Additionally, the geoarcheological analysis done in May and November is complete enough to place the cultural components in proper stratigraphic context.

The site surface scatter on the eastern side of the ditch covers most of a natural levee along the eastern side of the modern drainage ditch. Two episodes of systematic surface collecting were conducted to define the surface extent of this portion of the site. The first was performed at the beginning of the testing on the heavily weathered surface of the high visibility (ca. 90%) fallow agricultural field (Figures 4 and 5). A second round of surface collecting was preformed towards the end of testing after a period of heavy rainfall. Additional surface finds were identified as personnel conducted the subsurface testing.

A total of 13 one meter test units and 52 bucket auger probes were excavated on the eastern side of the drainage ditch (Figure 3). Bucket auger holes were dug at 15 m (49.2 ft.) intervals across the entire project area to depths of 130-210 cm, i.e., through the 2ABb horizon, and some reached the 3Bw horizon (see master soil profile in Appendix B). No artifacts were found below the BCb horizon. Test units were placed on a longitudinal transect across the natural levee. Nearly all of the test units reached 110 cm depth and in every case were extended through the BCb horizon where the deepest cultural component occurred. The 2ABb horizon could not be extensively investigated by hand excavation due to the high water table, and it is not known if any cultural material occurs in this horizon (none was found in bucket augers).

TESTING RESULTS—MAY

The surface collection produced 49 artifacts, all of which were piece-plotted with the total station. A majority of the artifacts cluster in the southwestern end of the scatter, where the upper part of the soil profile had been removed, exposing a Late Archaic component (Figure 3). Flaking debris ($n=25$) form the largest artifact class, followed by chipped stone tools ($n=15$), and FCR ($n=4$). Two noncultural rocks (field gravel?), two unmodified (probably) cultural rocks, and one cobble tool (hammer/grinder/bipolar hammer; basalt) comprise the rest of the surface collection.

The subsurface testing consisting of bucket augers and 1 x 1 m (3.3 x 3.3 ft.) test units produced a moderate, if uneven in count, inventory of artifacts and evidence for cultural features (Table 3). Artifacts were found from the surface to a maximum depth of 130 cm (see Figures 12-23 for vertical distribution of artifacts within test units).

Table 3. Non-flotation artifact totals for test units.

Test Unit	Count
1	18
2	4
3	42
4	3
5	4
6	1
7	4
8	-
9	35
10	4
11	3
12	8
13	45

Flotation Sampling

The two newly identified features were sampled for processing by flotation along with general soil samples removed from the lower part of Test Unit (TU) 13 and a 10 cm zone in Bucket Auger (BA) B2. The results are presented below.

Table 4. Summary of flotation samples.

Provenience	Sample Size	Results
Feature 2, TU 3	12 liters	12 flakes (fragments; Burlington/Salem; .3 g)
	16 liters	15 flakes (fragments/shatter; Burlington/Salem; 1.3 g)
	8 liters	38 flakes (fragments/shatter; Burlington/Salem; 2 g); 9 burned earth (2.3 g); 2 burned bone (<.1 g); 7 FCR bits (2 g)
Feature 3, TU 11	8 liters	52 burned bone bits (.4 g)
	3 liters	37 burned bone bits (.8 g); 1 charcoal (<.1 g)
TU 13, 110-120 cm	10 liters	1 flake fragment (Burlington?; <.1 g); 1 burned bone (<.1 g); 4 uncollected burned bone bits (est. <.1 g)
TU 13, 120-130 cm	10 liters	3 flakes (fragments; Burlington/Salem; .1 g); 10-12 uncollected burned bone bits (est. <.1 g)
BA B2, 60-70 cm	3.5 liters	364 flakes (mostly fragments; Burlington/Salem; 4.2 g)

Cultural Features

Testing identified two new features to go with the one identified during the initial investigation (Kolb and Harris 2002). A fourth feature was likely encountered (but not exposed for sectioning) during bucket augering, when a dense scatter of very small flaking debris (mostly fragments of Burlington/Salem cherts) was encountered in BA B2 at about 60 cm. A flotation sample taken from 60-70 cm in this test produced over 360 pieces of very small flaking debris (Table 4). A knapping station or debris dump was likely encountered in this test.

Feature 2. Identified in TU 3 beginning around 50 cm, this pit feature is likely associated with the Late Woodland component. Only part of the pit was exposed in the southwest corner of the unit (Figure 24). Among the collected artifacts are 20+ fragments of a cherty limestone cobble (St. Louis formation?) probably representing residue from heat-treating, a few sherdlets of Late Woodland pottery, nine small burned earth pieces, two very small bits of calcined bone, and 65 flakes (mostly small fragments and shatter). Observed but not recovered materials include several carbon flecks, very small burned bone bits, and bits of burned earth. No evidence for a burn zone was found, and the pit appears to have been filled with midden materials.

Feature 3. Approximately 80-100 cm below the surface in TU 11 a very light scatter of charcoal and a denser scatter of burned bone bits were encountered (Figure 25). Labeled Feature 3, no burned earth or staining indicative of in situ burning were visible, and it is possible this is a hearth dump. The stratigraphic position of the feature indicates it is in Component IV and likely dates to the early Late Archaic period comparable to the Falling Springs phase. Two flotation samples produced 89 unidentifiable burned bone bits (1.2 g) and a single recovered piece of carbon (<.1 g). Other artifacts, including a flake-knife, one piece of FCR, and a larger piece of carbon (1.2 g), were found in the adjacent soil. Non-recovered materials include several carbon flecks and small bits of burned bone.

Lithics Analysis

Chipped stone artifacts were found during all stages of the project but were most common in the flotation samples and test units.

Flaking Debris. The test units, bucket augers, and surface collection produced 131 pieces of flaking debris, while the flotation samples yielded an additional 433. The flotation specimens are typically very small (usually one or two millimeters) fragments of mostly Burlington and Salem cherts. A range of flake types was found in the test units, with fragments and shatter forming the bulk of the assemblage (Table 5). The overall heat-treating rate was 35.9%.

Table 5. Flaking debris summary (does not include flotation samples).

Flake Type	Count	% Heat-Treated
core trimming element	1	-
flake fragment	61	31.2
interior flake	12	16.7
pressure flake	3	33.3
primary decortication flake	1	-
secondary decortication flake	1	-
primary thinning flake	2	50.0
secondary thinning flake	8	87.5
tertiary thinning flake	9	88.9
shatter	33	27.3
total	131	35.9

Modeling the material types for the non-flotation flaking debris finds 106 identified as Burlington or probable Burlington (34% heat-treated), 13 Salem/probable Salem (46.2% heat-treated), one probable St. Genevieve (100% heat-treated), one probable St. Louis (0% heat-treated), and 10 unknown (40% heat-treated).

Chipped Stone Tools. Forty-two tools were found by subsurface testing (n=27) and surface collecting (n=15). Examples of various tools are shown in Figures 26-28. The tools are broadly classified as one uniface (whole), nine bifaces (eight fragments), and 32 flake-tools (23 fragments). The uniface was used as a spokeshave. The bifaces consist of one adz, one knife, four unfinished, two projectile points/knives, and one unknown (projectile point base). The flake-tools include one notched, 10 knives, and 21 scrapers. Four material types are represented: 29 Burlington (eight heat-treated), six Salem (three heat-treated), six St. Genevieve (four heat-treated), and one of an unknown translucent dark brown chert. The overall heat-treating rate for the tools is 35.7%, or virtually identical to the rate for the flaking debris.

Three of the bifaces are diagnostic. A base of a probable Gary style point was found at 29 cm depth of TU 12; a straight stemmed Late Archaic style point was found at 45 cm of TU 1; and a possible stemmed point (Mule Road phase?) was in TU 13, 36 cm (Figure 26).

Cores/Tested Cobbles. The testing produced no cores or tested cobbles, which is very unusual considering the amount of flaking debris that was found. It is possible that some of the early stage bifaces were used as cores.

Ceramics and Burned Earth Analysis

Testing produced a very small and poorly preserved assemblage of five sherds added to the few found during the initial investigation (Kolb and Harris 2002). Benn reexamined the Phase I sherds and suggests they are possibly from an Early Woodland ware (Liverpool?), although no decorations are present. During testing, a single body sherd of Marion Thick was found in a rodent burrow in Level 9 of TU 13 (Figure 29). This 13.4 mm thick sherd exhibited a coarse, heavily tempered paste of crushed igneous rock with cord roughened interior and exterior surfaces. Four damaged sherdlets of probable Late Woodland pottery were recovered from Feature 2 in TU 3. These fragments have a silty, reduced color and moderate amounts of crushed rock (limestone?) temper. These pottery remains define the two upper components on the Helmkamp site: Component I (Late Woodland) and Component II (Early Woodland).

Burned earth was reported from the notes in TU 13 and Feature 2. The two pieces (2.6 g) from the test unit are questionable (from historic field clearing), but the nine pieces with a collective weight of 2.3 g from Feature 2 appear to be genuine prehistoric artifacts.

Other Stone Analysis

Testing produced 29 pieces of FCR having a collective weight of 1,469.6 g. FCR size ranged from less than a gram to 359.5 g and almost 90% weighed less than 100 g. Two of the three largest pieces were found during surface collecting, and the balance came from 10 test units. Igneous rocks form the bulk of the materials used as FCR (Table 6), while the presence of chert likely represent debris left over from heat-treating activities. Evidence for this includes over 20 fragments from a single cherty limestone cobble found in Feature 2 and adjoining parts of TU 3.

Table 6. Summary information on Helmkamp FCR.

Material	Weight %	Count
basalt	24.5	1
chert, unknown	.2	1
chert, medium dark gray	.4	3
fine-grained unknown igneous	10.1	3
fine/medium-grained unknown igneous	10.7	4
medium-grained unknown igneous	4.4	2
limestone, cherty	24.4	22
granite	1.5	4
quartzite	22.3	1
sandstone	1.5	4
outwash conglomerate	<.1	1
	100.0	46

Only one cobble tool, a hammer/grinder/bipolar hammer, was found during testing (Figure 30). Made from a 451.2 g basalt cobble, this tool exhibited pitting towards one end indicative of hammering, and crushing and minor pitting on one side from grinding and bipolar hammering, respectively.

The remaining stone artifacts are two unmodified stones found during surface collecting. These rocks (unknown fine-grained igneous-196.7 g; Burlington limestone/chert-44.1 g) are presumed to have been introduced to the site by a prehistoric person. Two other, smaller stones appear to be field gravel introduced by agricultural activities.

Floral/Faunal Remains

Sparse amounts of floral and faunal remains were recovered during testing. Burned bone was recovered from both features and as isolated pieces in TUs 3 and 13 and BA A8. All burned bones are small, unidentifiable bits of less than .1 g in individual weight. Feature 2, a possible hearth dump, produced the largest concentration by both count and weight (Table 7). While lesser amounts of carbonized material (all appear to be wood) were recovered, the occurrence of charcoal was observed in several test units.

Table 7. Burned bone and charcoal summary.

Provenience	Burned Bone/Charcoal
Feature 2, TU 3	2 burned bone bits (<.1 g)
Feature 3, TU 11	52 burned bone bits (.4 g)
	37 burned bone bits (.8 g); charcoal (1.2 g)
BA A8, 60-70 cm	1 burned bone (.1 g)
TU 13, 38 cm	1 burned bone (.3 g)
TU 3, 30-40 cm	charcoal flecks observed (not collected)
TU 3, 45 cm	burned bone bits observed (not collected)
TU 3, 62 cm	burned bone bits observed (not collected)
TU 3, 69 cm	1 burned bone (.1 g); additional bits observed (not collected)
TU 7, 52-60 cm	charcoal flecks observed (not collected)
TU 7, 60-70 cm	charcoal flecks observed (not collected)
TU 7, 70-80 cm	charcoal flecks observed (not collected)
TU 9, 79 cm	charcoal (1.2 g)
TU 10, 47 cm	charcoal flecks observed (not collected)
TU 10, 80 cm	charcoal flecks observed (not collected)
TU 11, 80 cm	charcoal flecks observed (not collected)
TU 11, 95 cm	charcoal flecks observed (not collected)
TU 12, 40-50 cm	charcoal flecks observed (not collected)
TU 13, 64 cm	charcoal flecks observed (not collected)
TU 13, 110-120 cm, General Soil Sample	1 burned bone (<.1 g); 4 uncollected burned bone bits (est. <.1 g)
TU 13, 120-130 cm, General Soil Sample	10-12 uncollected burned bone bits (est. <.1 g)
BA C4, 40-50 cm	charcoal flecks observed (not collected)
BA C7, 60-70 cm	charcoal flecks observed (not collected)

TESTING RESULTS--NOVEMBER

Pending a SLCOE decision to move the pump station to the western side of the drainage ditch to avoid impacting significant portions of the Helmkamp site, BCA was contracted to return to test the site's western boundary. Late November fieldwork began during a steady rain, which was followed the next day by freezing conditions. A small surface collection was obtained and consisted of: one tested Burlington limestone cobble, one

double platform core (Figure 31), two tabular flakes, two flake-blanks, one flake fragment, and one historic whiteware sherd. This collection supplements an earlier one made by SLCOE personnel, which included: five flake-blanks, eight flake fragments, and one flake-tool. Most of the material in both collections is made from Burlington and Salem cherts. Seven test units (TUs 1-7; Figure 3) were opened across the entire surface scatter (Figures 3 and 32) and excavated by careful shovel-skimming through two or more levels below the deepest artifact. Soils were quite wet, test units had to be bailed in the morning, and backdirt screening was impossible during this work. No features or carbon concentrations were encountered in the seven units.

Table 8. Artifacts from December test excavations, 11MS2025 West.

Level (10 cm)	TU 1	TU 2	TU 3	TU 4	TU 5	TU 6	TU 7
Ap	-	-	-	-	-	-	-
2	1 fl	-	-	-	-	-	-
3	-	-	1 fl, 1 scr fr	-	-	1 fl	-
4	-	-	1 fl, 3 fl fr	-	1 fl fr	-	-
5	-	2 fl fr	4 fl, 8 fl fr, 2 fcr	-	-	-	-
6	-	-	2 fl, 1 fl fr	X	-	X	X
7	-	X	1 fl	-	-	-	-
8	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-
10	-	-	1 fl	-	-	-	-
11	-	-	-	-	X	-	-
12	X	-	X	-	-	-	-

X=end excavation; fl=flake; scr=scraper; fr=fragment; fcr=fire-cracked rock

Testing the western side of 11MS2025 yielded relatively little information. Artifacts were sparse or not present in most of the units, except TU 3 where a modest lithic concentration appears to have been encountered (Table 8). Most of the debitage occurred between 30-50 cm below surface, which probably equates to the Early Woodland or Late Archaic component on the eastern side of the drainage ditch. About 30 cm of topsoil on the western side of the ditch appears to be missing in profiles from TUs 1, 2, 4, and 5. This means that the middle Holocene terrace surface has been severely deflated on the western side of the ditch, probably due to land leveling and cultivation. The western boundary of 11MS2025 is demarcated by a paleo-channel of Cahokia Creek, which we mapped from standing water in the field (Figure 3). The shadow of this paleo-channel is visible on the 1941 air photo (Figure 33).

GENERAL INTERPRETATIONS

The site boundaries shown on Figure 3 represent the maximum extent of the Helmkamp site based on two episodes of BCA testing. This boundary is a compilation of the projected horizontal extent of the four components, most of which are not exposed on the cultivated surface. Individual components do not necessarily cover the entire mapped extent of the site, e.g., the late prehistoric component is missing on the southern end of the site because of the previous stripping of the surface soil. The pre-Woodland

components appear to be confined to the southern end of the site area and extend across the ditch to the western boundary. Four cultural components (habitations) are identified on the Helmkamp site by diagnostic artifacts and/or stratigraphic context.

Component I, the most recent, is within the AB and B1 horizons of the topsoil. Its consists of an extremely light surface scatter of lithic debitage and a few FCR extending from the edge of Canal Road northward across the project area and probably to the western boundary (Figure 3). A pit feature in TU 3 (Figure 24) belongs to this Late Woodland component as do fragmentary Late Woodland pottery sherds from the feature fill. A post-A.D. 700 date is indicated for this component, which may be equivalent in age to the Patrick phase.

A second component appears to be widely diffused within the B1-B2t soil horizons in the southwestern quadrant of the project area, although too little diagnostic material (pottery) was recovered to present a clear indication of its horizontal limits within the site boundaries. Evidence for the second component includes the sandy pottery sherds from the initial investigation, one Marion Thick sherd (recovered from a rodent burrow at 90 cm in TU 13; Figures 23 and 29), and one contracting stem projectile point (Gary style) from a depth of 29 cm in TU 12 (Figures 22 and 26). This habitation belongs to the Early Woodland period, possibly the Carr Creek phase (Figure 7).

A probable third component rests either just above or within the B3t (Ab) horizon in the southwestern quadrant of the project area, including the terrace remnant west of the drainage ditch. The only diagnostic artifact (stemmed point) from the third component, found in TU 1 (Figures 12 and 26), resembles projectile styles of the Titterington phase (middle Late Archaic; Fortier 1984) or perhaps the Prairie Lake phase (terminal Late Archaic). Another broken stemmed point (Mule Road phase?; McElrath 1993) from TU 13 (Figures 23 and 26) may also belong to the Late Archaic component. This component was best exposed in the TUs 1, 9, 11, and 13, where a moderate scatter of flaking debris and several tools was found below the plowzone to a depth of about 50-60 cm (Figures 12, 19, 21, and 23).

The fourth component rests at roughly 85-100+ cm depth in the southwestern corner of the project area but not on the western side of the ditch (Figure 3). It was exposed in the B1b horizon in TUs 1, 11, and 13 (Figures 12, 21, and 23). Feature 3, either a leached hearth or a dump of hearth refuse (Figure 25), was identified along with a light scatter of flaking debris, FCR, and chipped stone tools. Feature 1, identified by the Phase I investigation (Kolb and Harris 2002), probably also lies within this component. Flotation samples (see Table 7) indicate that faunal and floral remains are preserved as concentrations (pits?) within the fourth component, which may belong to the middle Late Archaic period (Falling Springs phase or later?; Figure 7).

Collectively, the components indicate a dependence on local cherts, mostly Burlington and secondarily Salem, for chipped stone tool production (Table 8). A similar pattern is also seen at the nearby Ringering and Floyd sites, where Burlington typically accounts for over half of the chipped stone material, followed distantly by Salem chert (e.g., Evans

et al. 2000:Figures 7.7, 8.9; Evans et al. 2001:Table 4.12). These materials were being used to produce bifaces and flakes for tools. On-site production is not only indicated by the presence of lithic debris but by indications (e.g., the dense flake scatter in Bucket Auger B2) of knapping stations and/or dumps. Only a few flakes exhibited cortex, suggesting that heavily trimmed cores and/or prepared bifaces were brought to the site. However, no cores are present in the testing assemblage, which may indicate that materials were taken with the residents upon site abandonment. Occupations of the Helmkamp site may have been seasonal and relatively short, considering the narrow range of tool types in the present collection.

Table 9. Comparison of materials types among Helmkamp chipped stone (east side collection).

Material	Flaking Debris	Tools	All
Burlington	80.9	69.1	78.0
Salem	9.9	14.3	11.0
St. Genevieve	.8	14.3	4.1
St. Louis	.8	-	.6
Unknown	7.6	2.4	6.4
total	100.0	100.1	100.1

CONCLUSIONS AND RECOMMENDATIONS

Preservation of the four cultural components varies from "good to poor" (Table 9). The Late Woodland component, which contains relatively little material in limited distribution at the center of the natural levee on the eastern side, has been extensively mixed by plowing. Some lithic artifacts and one pit feature (#2) were found below the plowzone, but faunal preservation is very poor in the leached topsoil. A majority of this component appears to have been destroyed by plowing. The Early Woodland component (II) consists of an extremely thin scatter that cannot be separated from the other components, and part of this component has been damaged by plowing at the southern end of the natural levee. Preservation of fauna and flora, not to mention features, seems unlikely in the leached horizons of the topsoil, therefore the condition of the Early Woodland component is judged to be "poor." Component III, a middle/late Late Archaic habitation, appears to be relatively intact, because almost all of it is buried below the plowzone in the southwestern corner of the project area including west of the drainage ditch. There are diagnostic artifacts and the potential for features in this third component, however it may be mixed with the Woodland components. The fourth component is isolated well below the other three and probably contains intact features with floral and faunal remains. Feature 1, which was identified by the initial investigation, and Feature 3, a possible hearth/hearth dump found during testing, are likely associated with this component. Two negative aspects of the Late Archaic components are that they lie within a heavily leached Bt horizon, where organic stains will not be obvious, and there is the question of how much of this component has been damaged by the construction of the adjacent gravel road and drainage ditch. The western portion of the (later) Archaic

component has been further compromised by digging of the drainage ditch, thus what remains of the site *on the western side of this ditch* is deemed not to be significant with regard to the NRHP. Only the two Late Archaic components covering approximately 1,250 m² (.3 ac.) *on the eastern side of the drainage ditch* are judged to have integrity and research potential necessary for a finding of “potential significance” with regard to Criterion D of the NRHP. Avoidance is recommended for these components. If avoidance is not feasible, then Phase III data recovery on the eastern side of the drainage ditch is recommended. The Late Woodland and Early Woodland components are judged to be ineligible and no additional investigations are recommended (Table 10).

Table 10. Component summary.

Component	Projected Age	Integrity	Recommendation
I	late Late Woodland	poor	not eligible; no additional work
II	early Early Woodland	poor	not eligible; no additional work
III	middle/late Late Archaic	moderately good	potentially eligible east of the ditch--avoidance/data recovery; ineligible west of the ditch
IV	early Late Archaic	good	potentially eligible east of the ditch--avoidance/data recovery; ineligible west of the ditch

Here are some suggestions for mitigation of adverse impacts to the Late Archaic component(s). The upper Archaic component (Ab horizon?) may be mixed with Woodland material, and more extensive excavation should reveal whether it does or does not have enough integrity separate from the Woodland material to warrant complete excavation. The lower Late Archaic component is intact and warrants extensive research, although it may extend beneath the gravel road. Both Archaic components are concentrated in the southwestern corner of the project area on the eastern side of the drainage ditch (encompassing TUs 1, 9, 11, and 13; see Figure 3). If the pump station could be moved westward so that it did not impact the Archaic component on the river levee, this would qualify as “avoidance.” The proposed ditch excavation in any form north of the pump station will not impact significant archeological deposits.

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FIGURES

Figures 2 & 6 removed, contain sensitive site location information



Figure 1. Location of the Helmkamp site in relation to the American Bottom.
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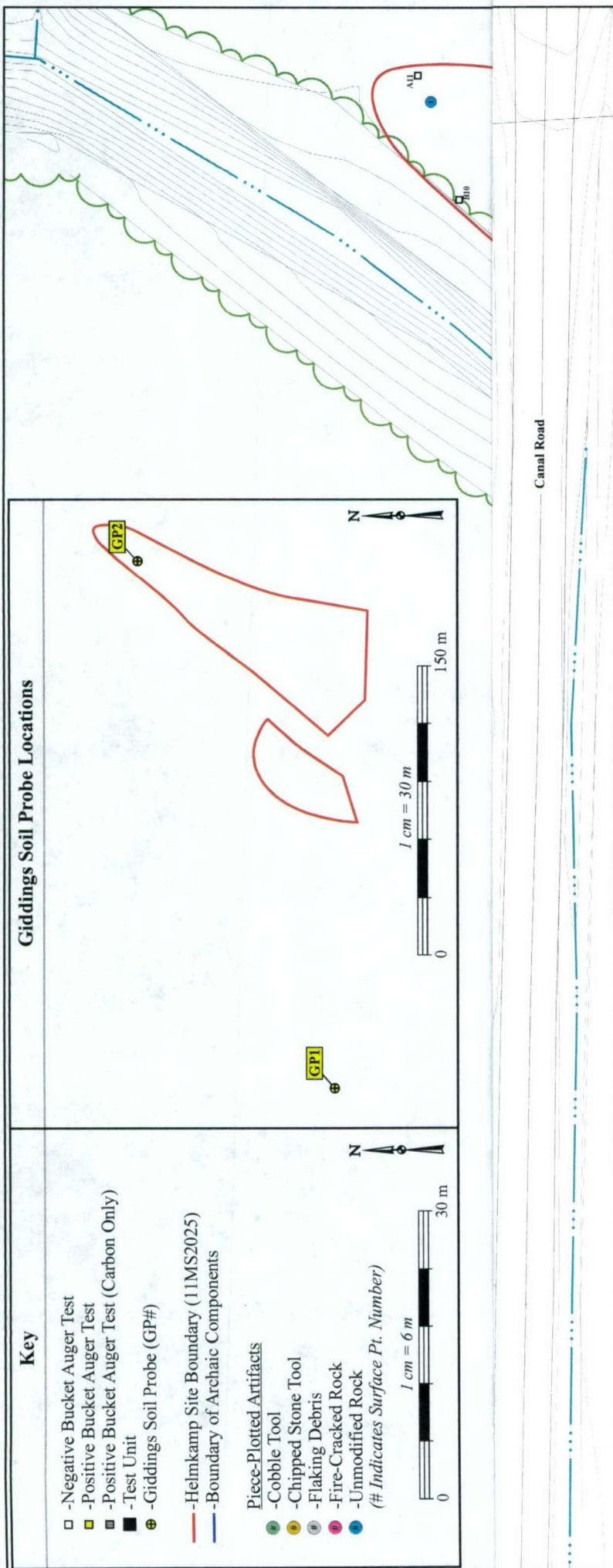


Figure 3. Scale map of Phase II testing at the Helmkamp site.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230



4.



5.

Figure 4. Surface conditions on the Helmkamp site at the time of the surface collection.
View to the north.

Figure 5. Overview of the southwestern corner of the Helmkamp site containing the Archaic components. The levee for the Cahokia drainage channel is in the background.
View to the south.

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

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Fig. 6 removed

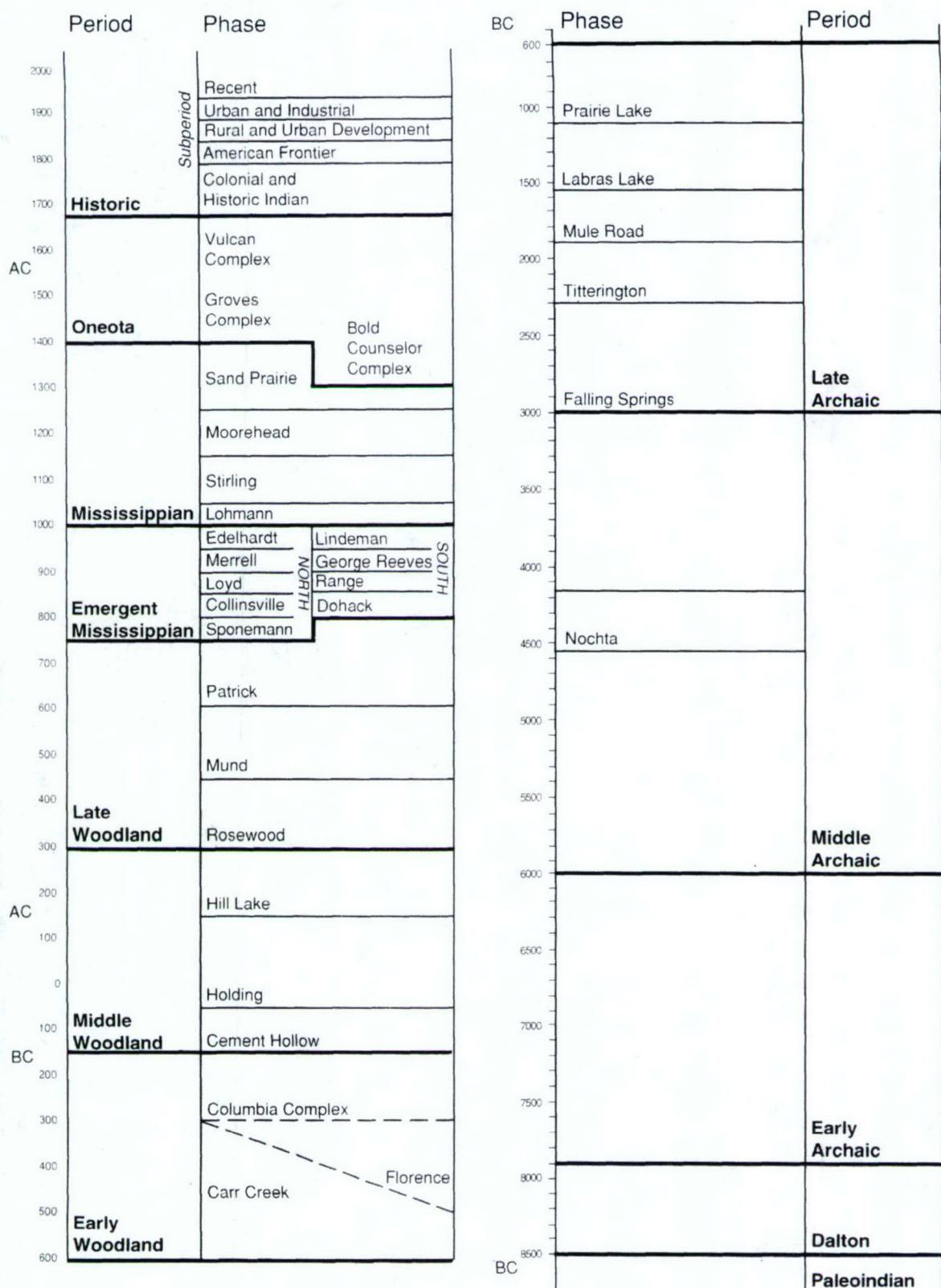


Figure 7. American Bottom chronology (from Evans et al. 2000:Figure 1.3).
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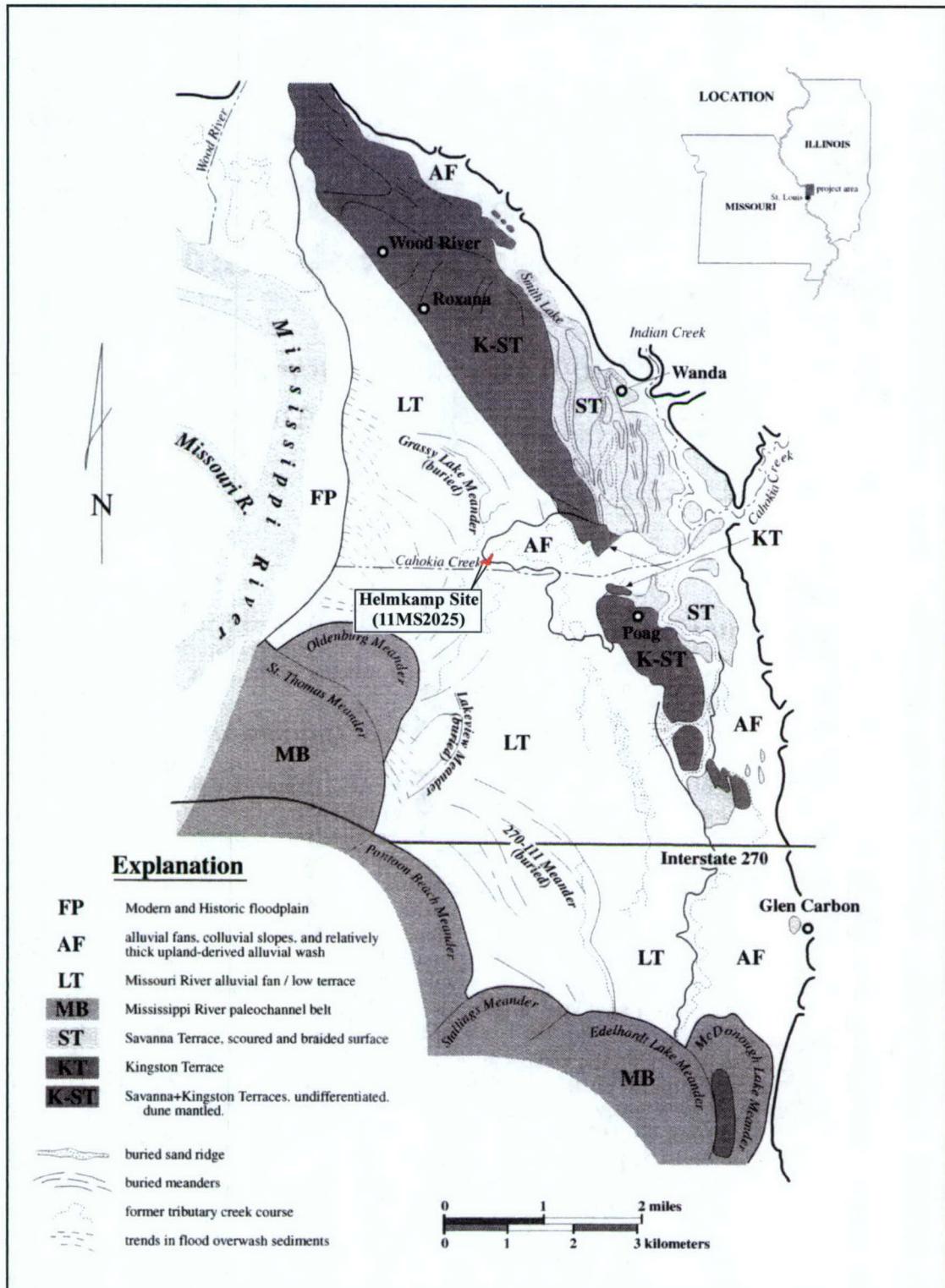


Figure 8. Geomorphology of the northern American Bottom (from Hajic et al. 2000:Figure 4.1).
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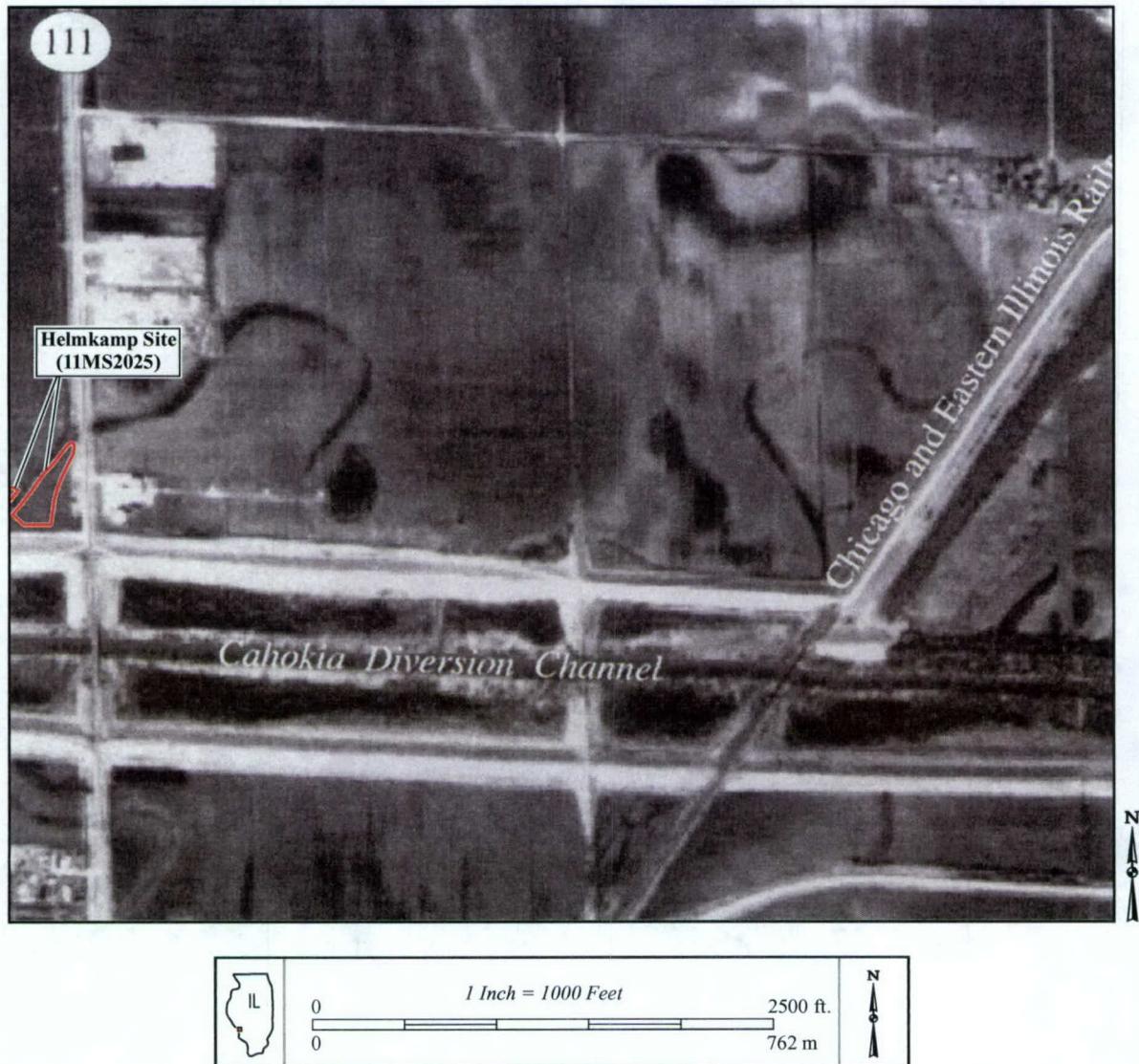


Figure 9. Aerial photograph of the Cahokia Creek paleochannel and wash belt on the Missouri River alluvial fan/low terrace (from Hajic et al. 2000:Figure 4.9).
 Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230



10.



11.

Figure 10. East wall profile from Test Unit 1.
Figure 11. North wall profile from Test Unit 6.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

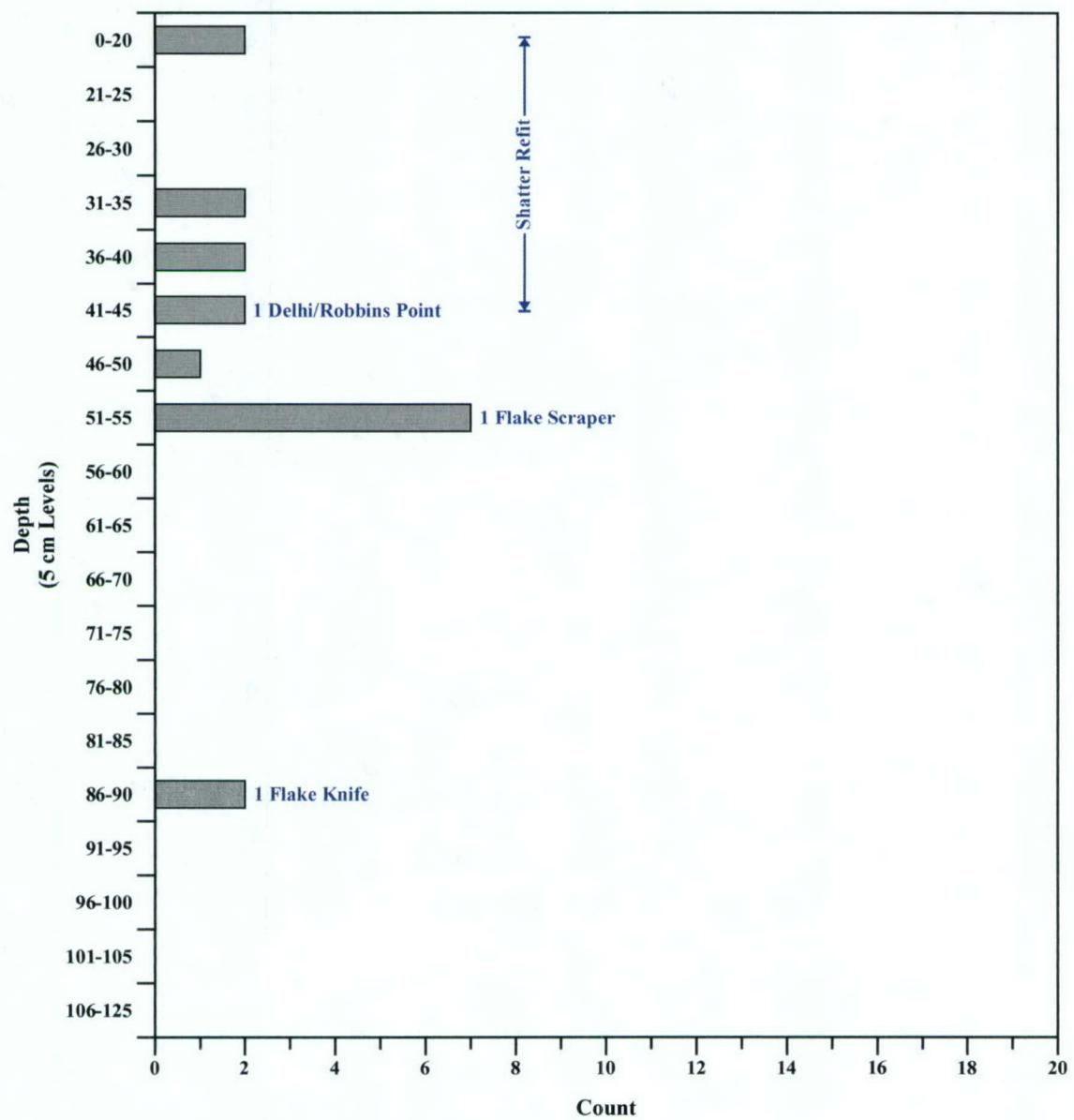


Figure 12. Vertical distribution of artifacts by count in Test Unit 1 (does not include feature or soil sample counts).

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BCA #1199/1230

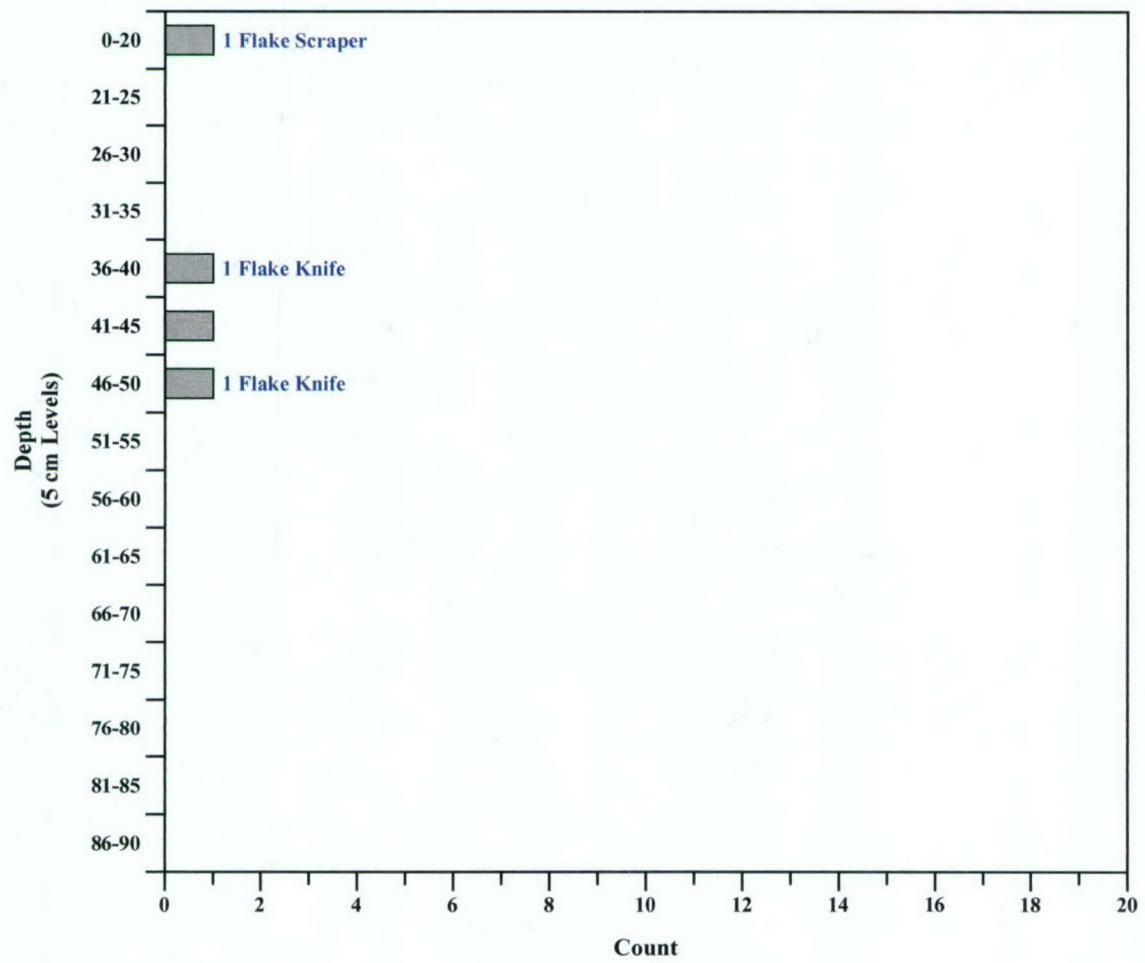


Figure 13. Vertical distribution of artifacts by count in Test Unit 2 (does not include feature or soil sample counts).

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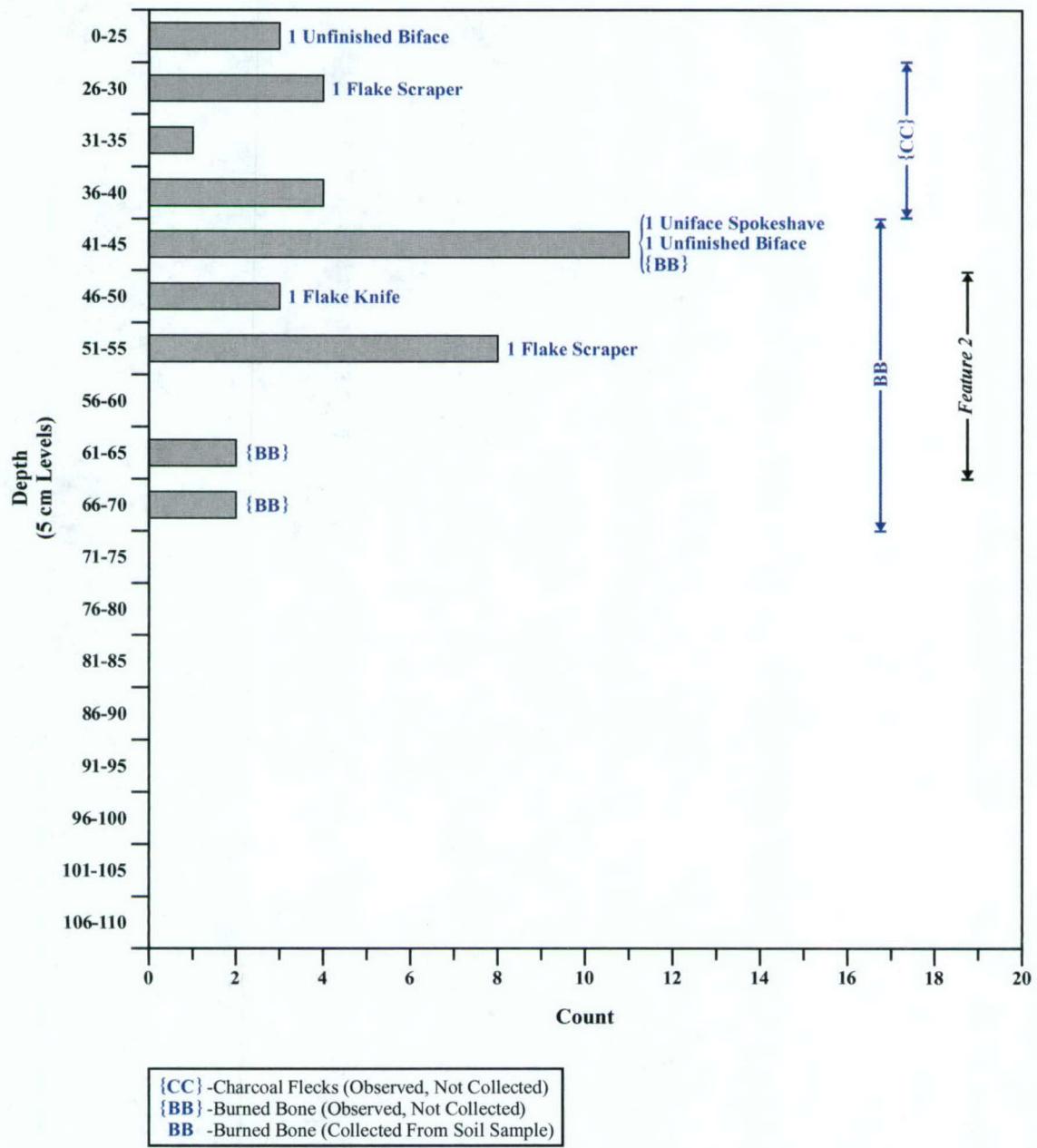


Figure 14. Vertical distribution of artifacts by count in Test Unit 3 (does not include feature or soil sample counts).

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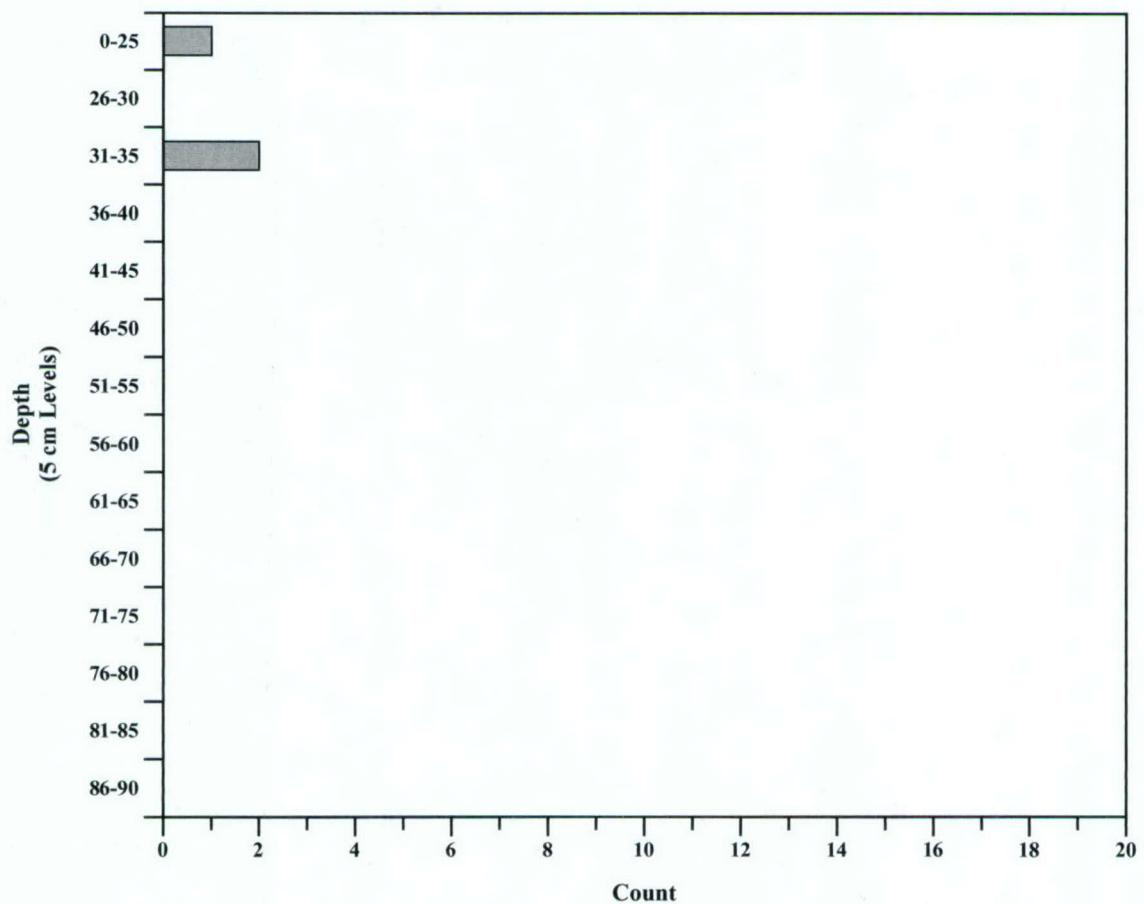


Figure 15. Vertical distribution of artifacts by count in Test Unit 4 (does not include feature or soil sample counts).

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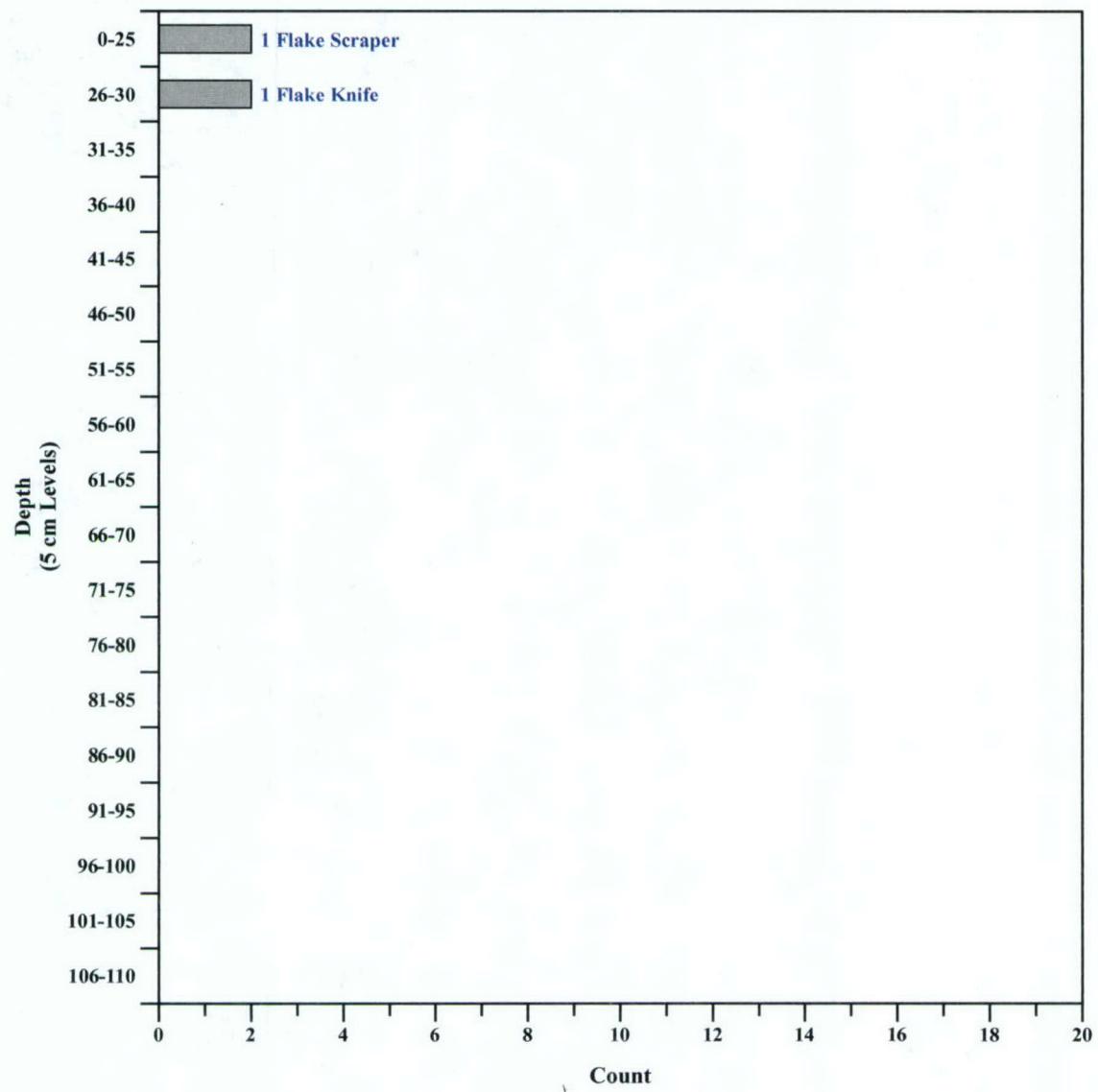


Figure 16. Vertical distribution of artifacts by count in Test Unit 5 (does not include feature or soil sample counts).

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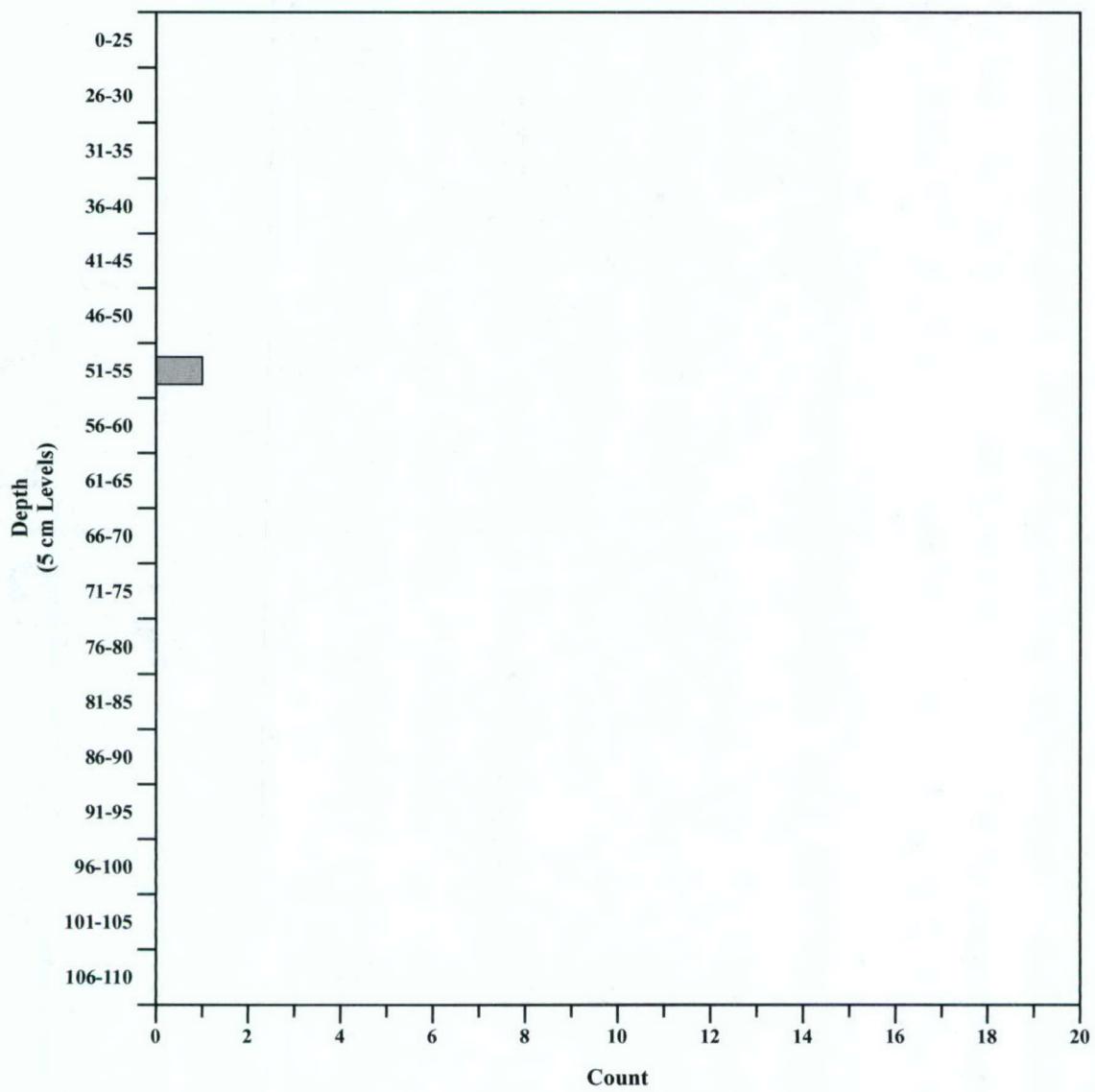


Figure 17. Vertical distribution of artifacts by count in Test Unit 6 (does not include feature or soil sample counts).

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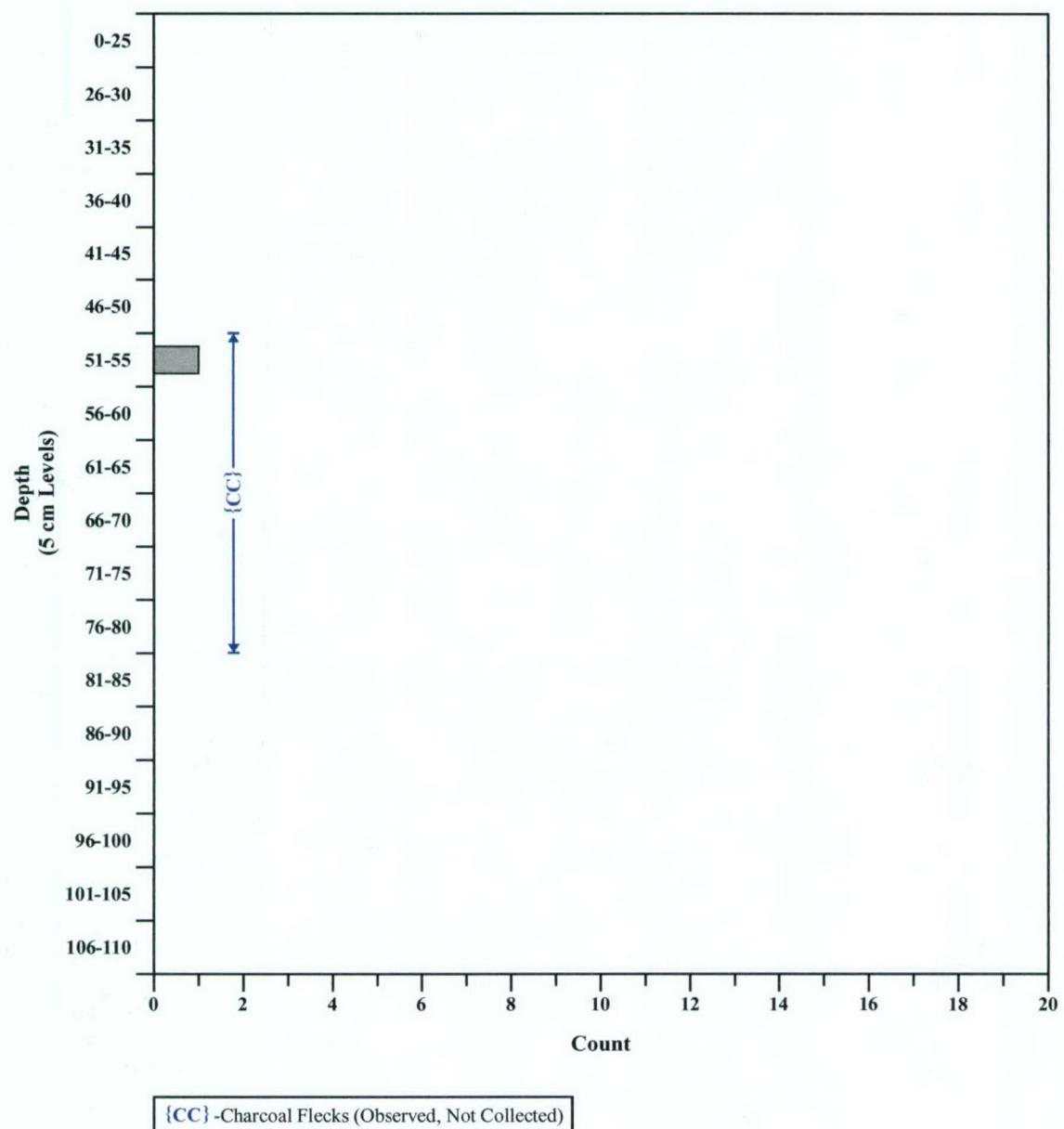


Figure 18. Vertical distribution of artifacts by count in Test Unit 7 (does not include feature or soil sample counts).

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

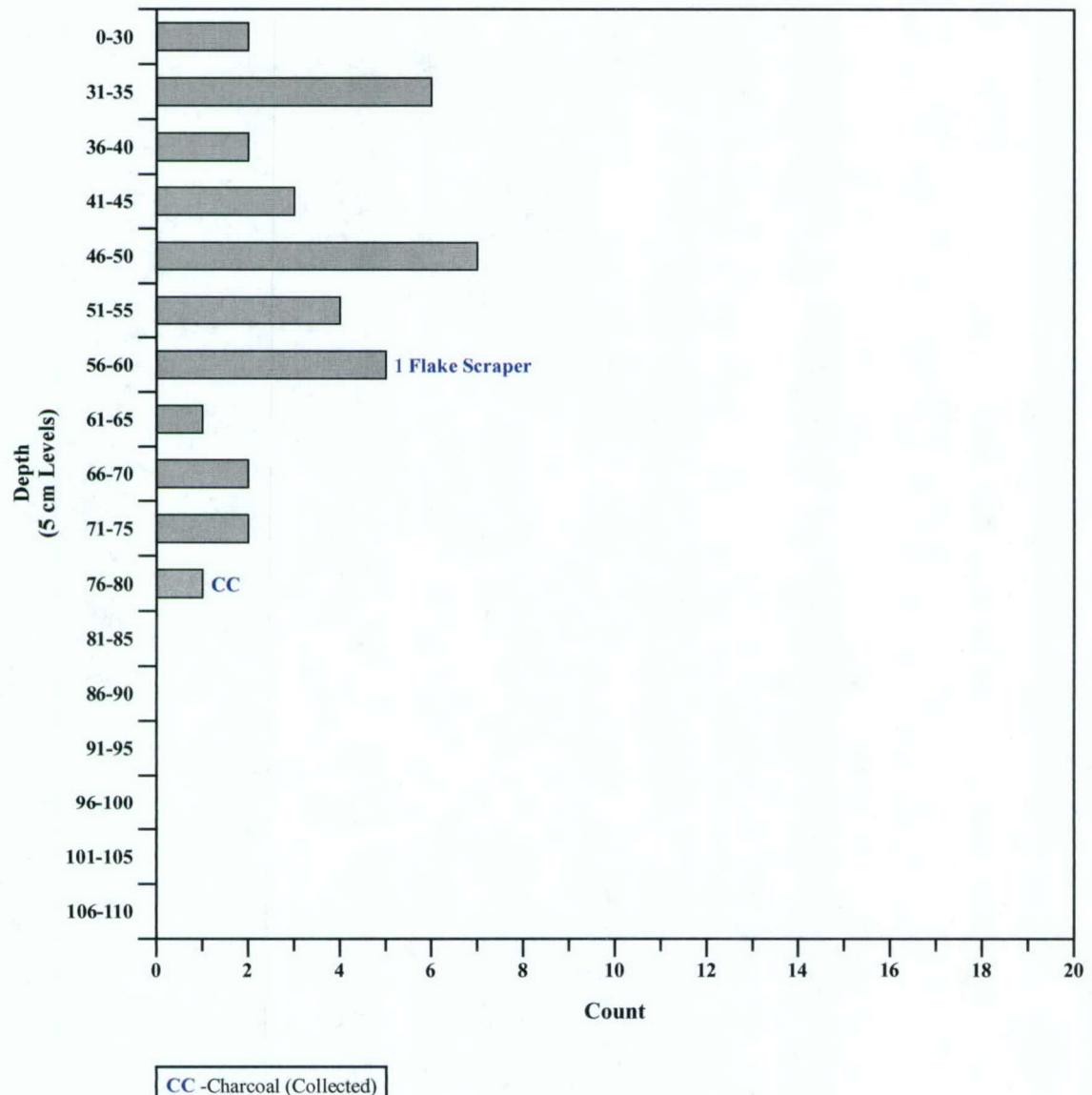


Figure 19. Vertical distribution of artifacts by count in Test Unit 9 (does not include feature or soil sample counts).

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

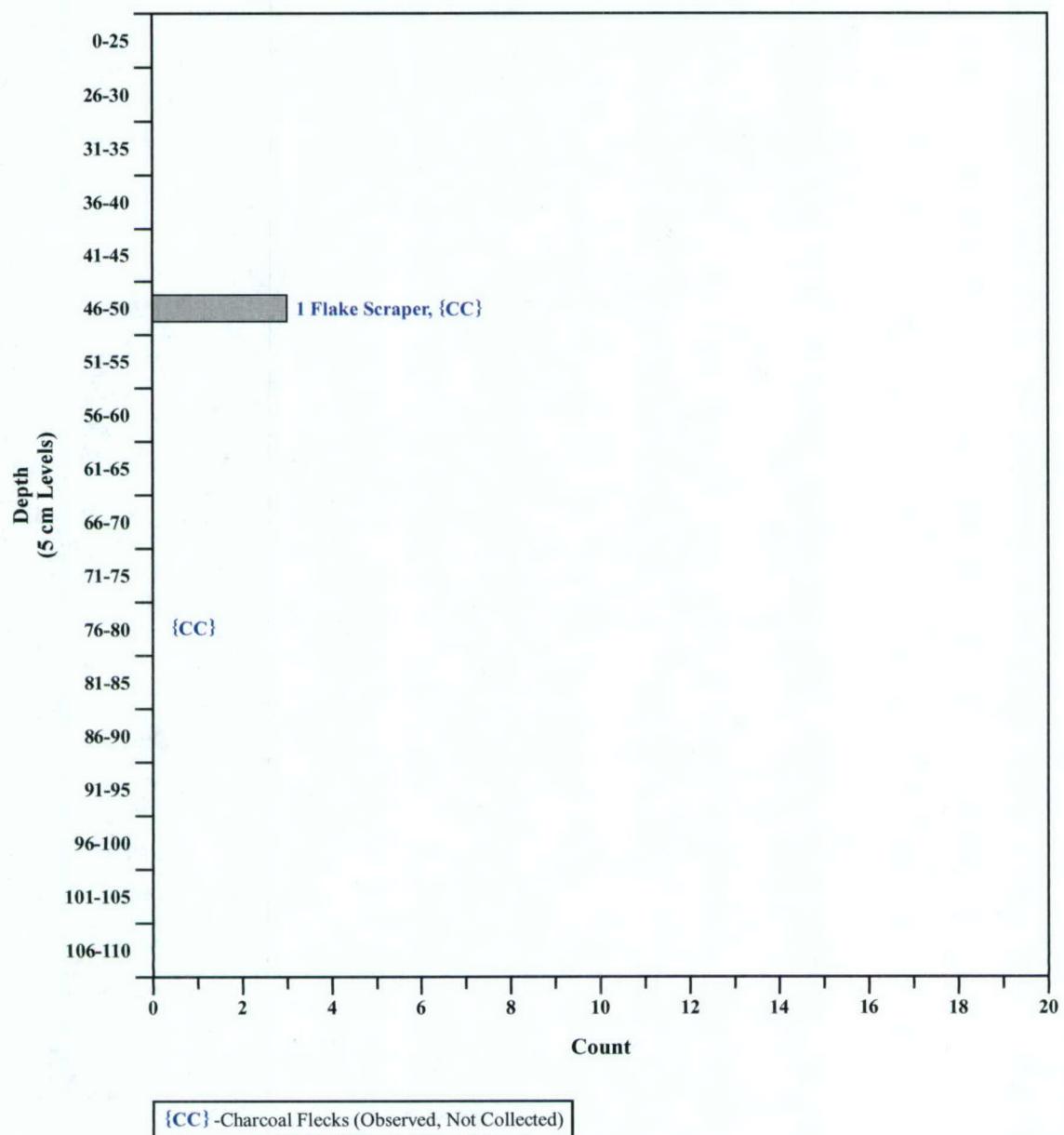


Figure 20. Vertical distribution of artifacts by count in Test Unit 10 (does not include feature or soil sample counts).

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

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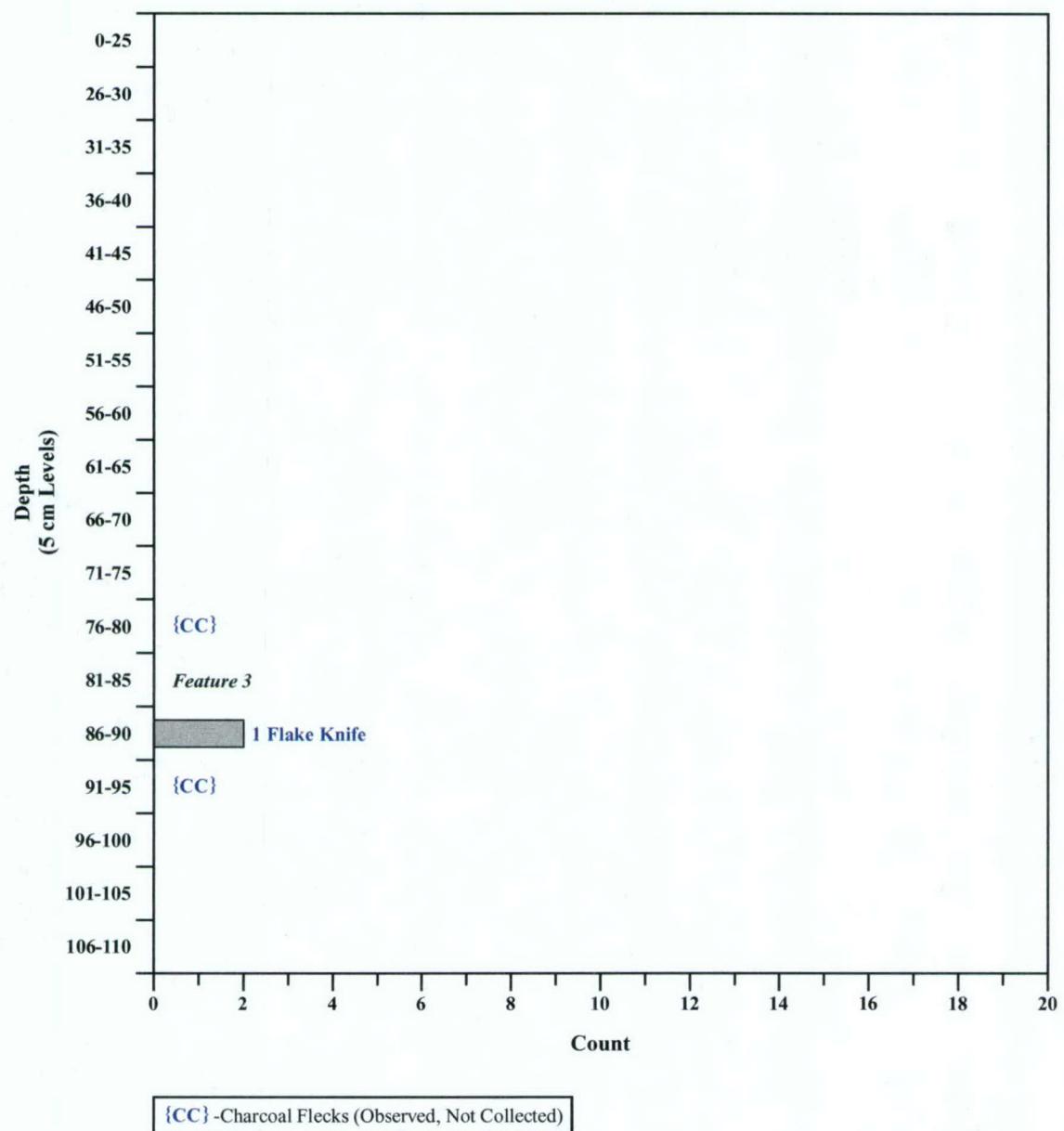


Figure 21. Vertical distribution of artifacts by count in Test Unit 11 (does not include feature or soil sample counts).

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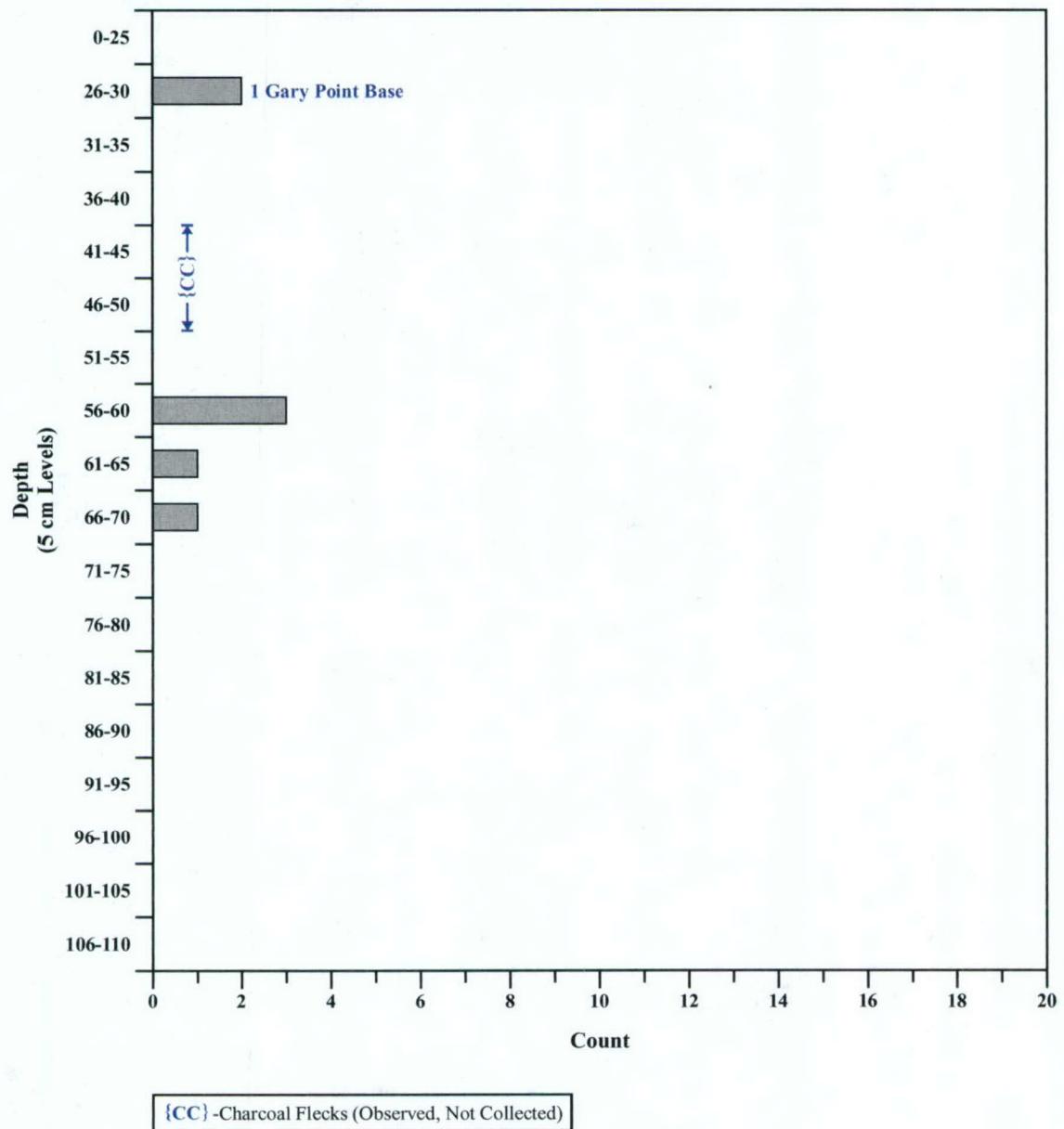


Figure 22. Vertical distribution of artifacts by count in Test Unit 12 (does not include feature or soil sample counts).

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

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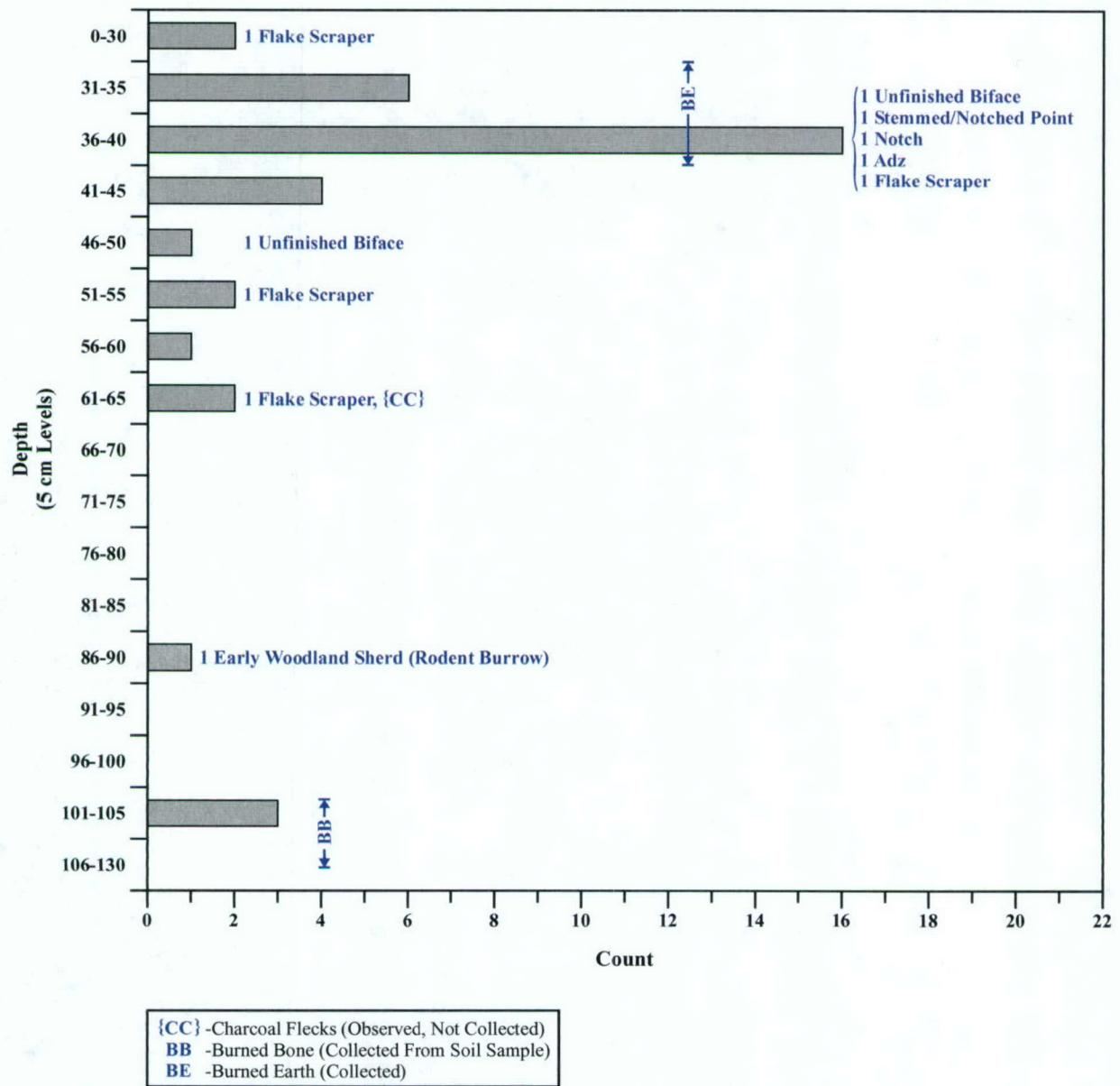


Figure 23. Vertical distribution of artifacts by count in Test Unit 13 (does not include feature or soil sample counts).

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

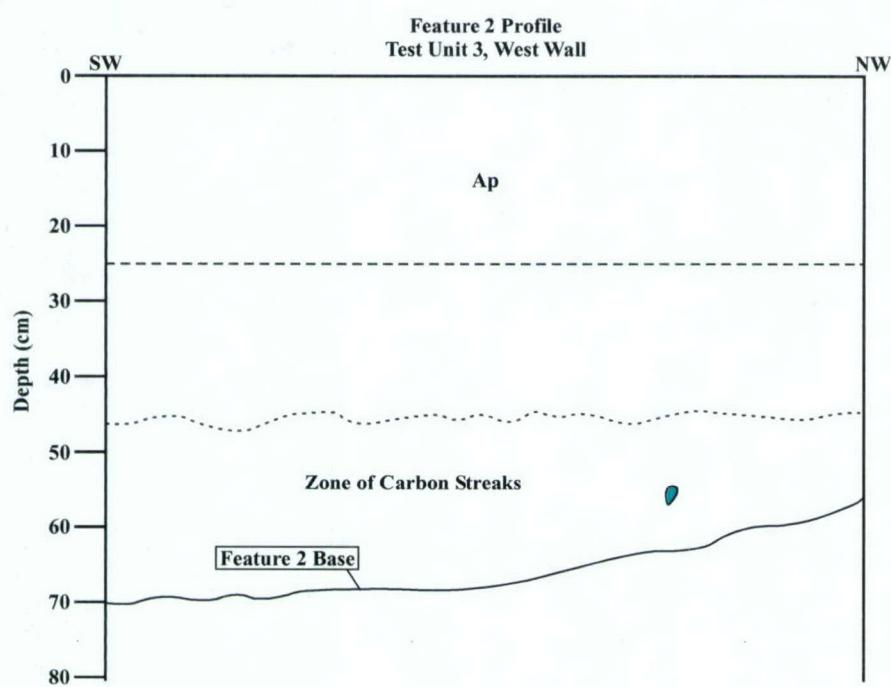
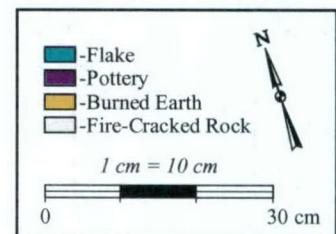
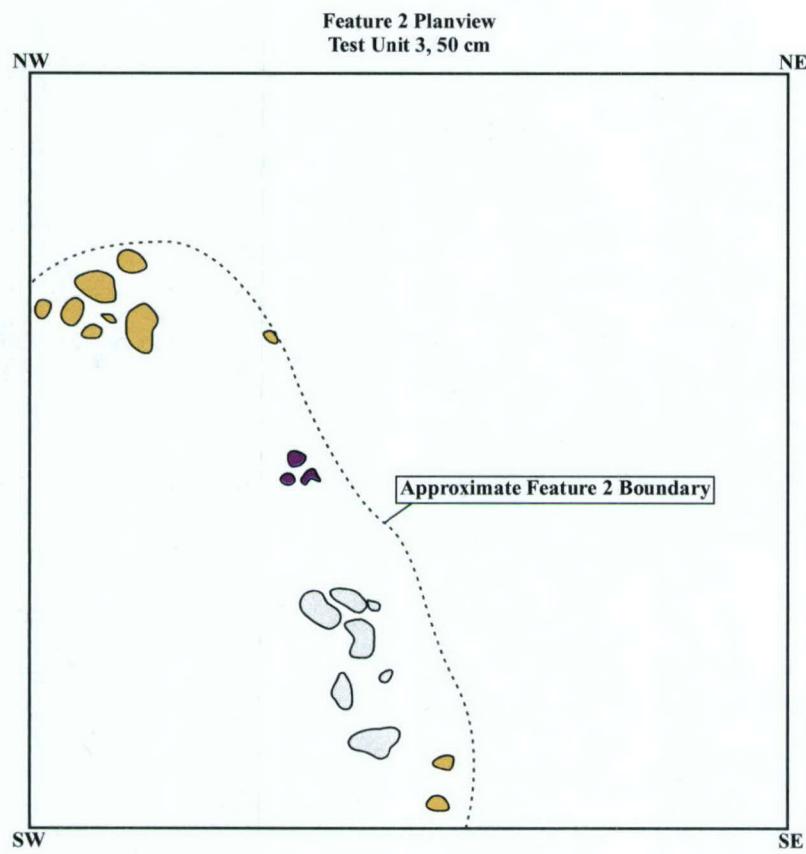


Figure 24. Planview and profile of Feature 2 in Test Unit 3.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

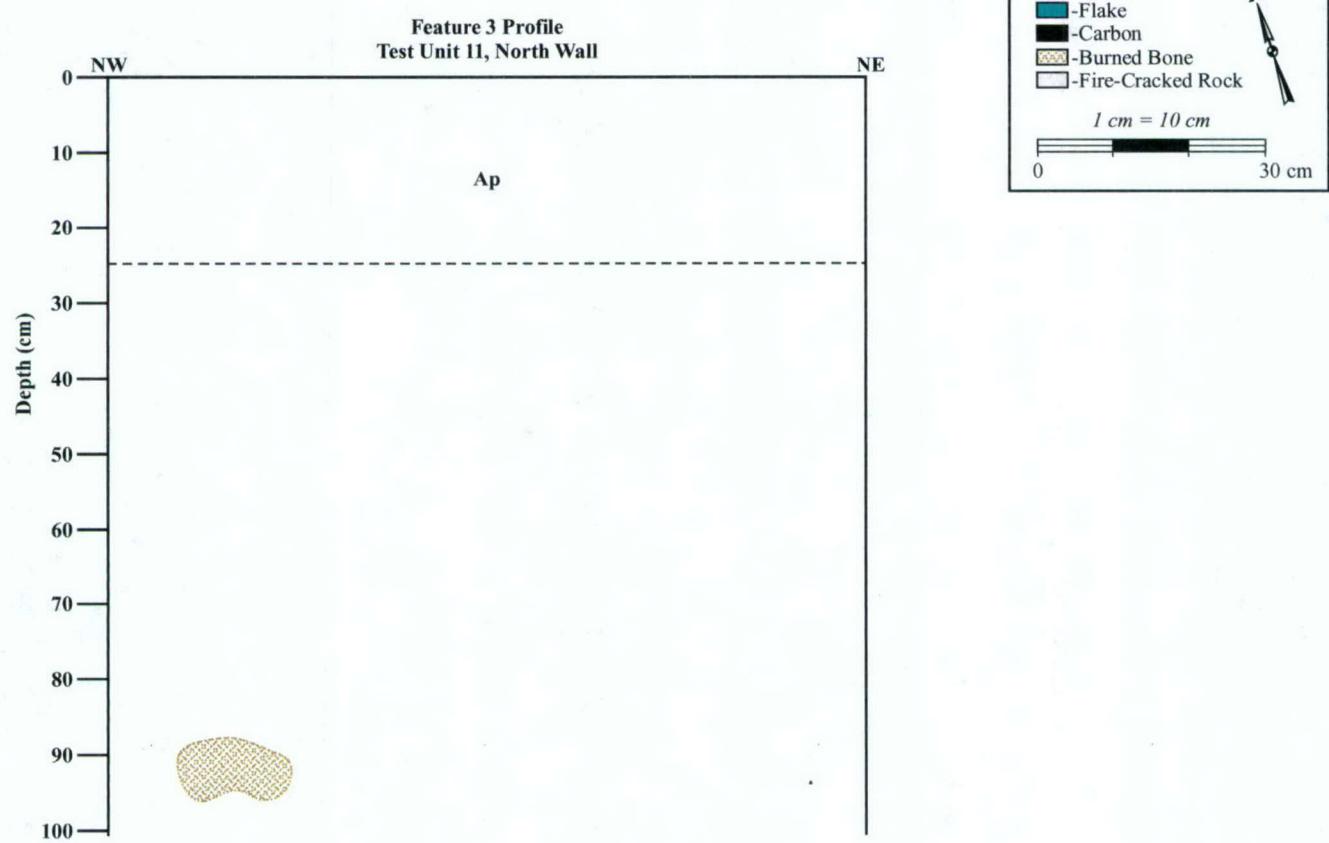
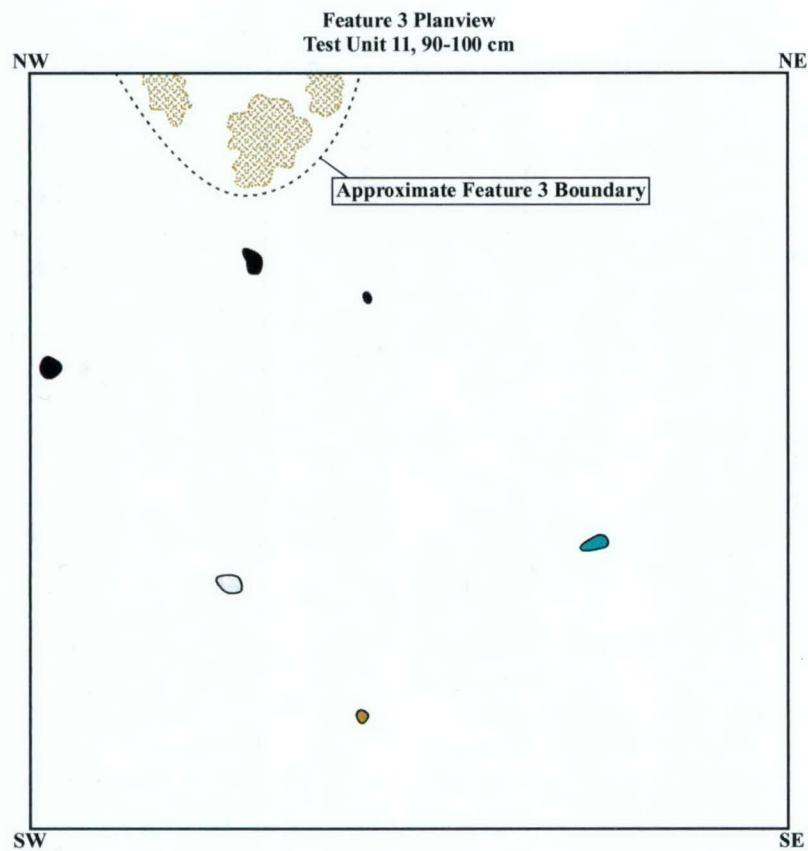


Figure 25. Planview and profile of Feature 3 in Test Unit 11.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

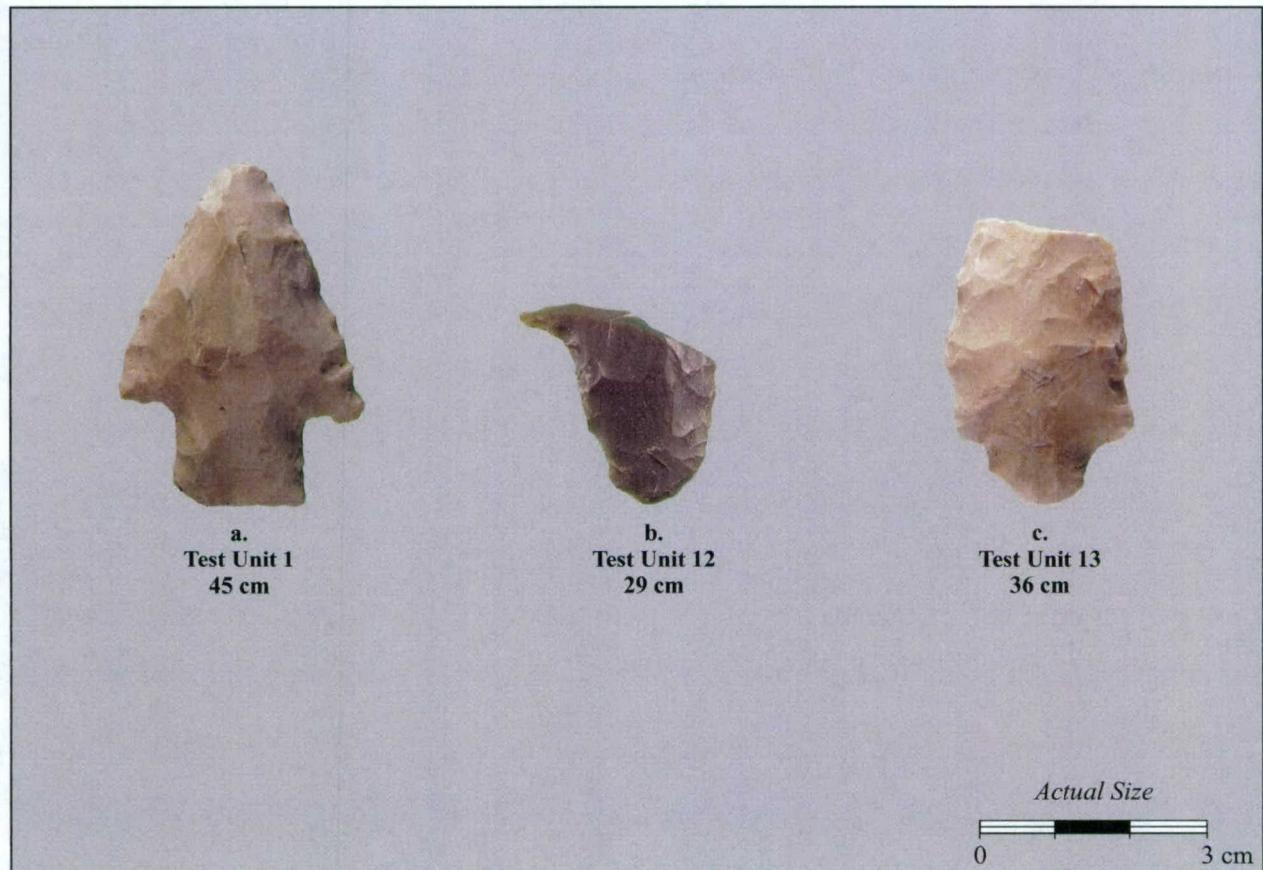


Figure 26. Diagnostic bifaces from the Helmkamp site: (a) Delhi/Robbins point; (b) Gary point; (c) untyped stemmed/notched point.

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

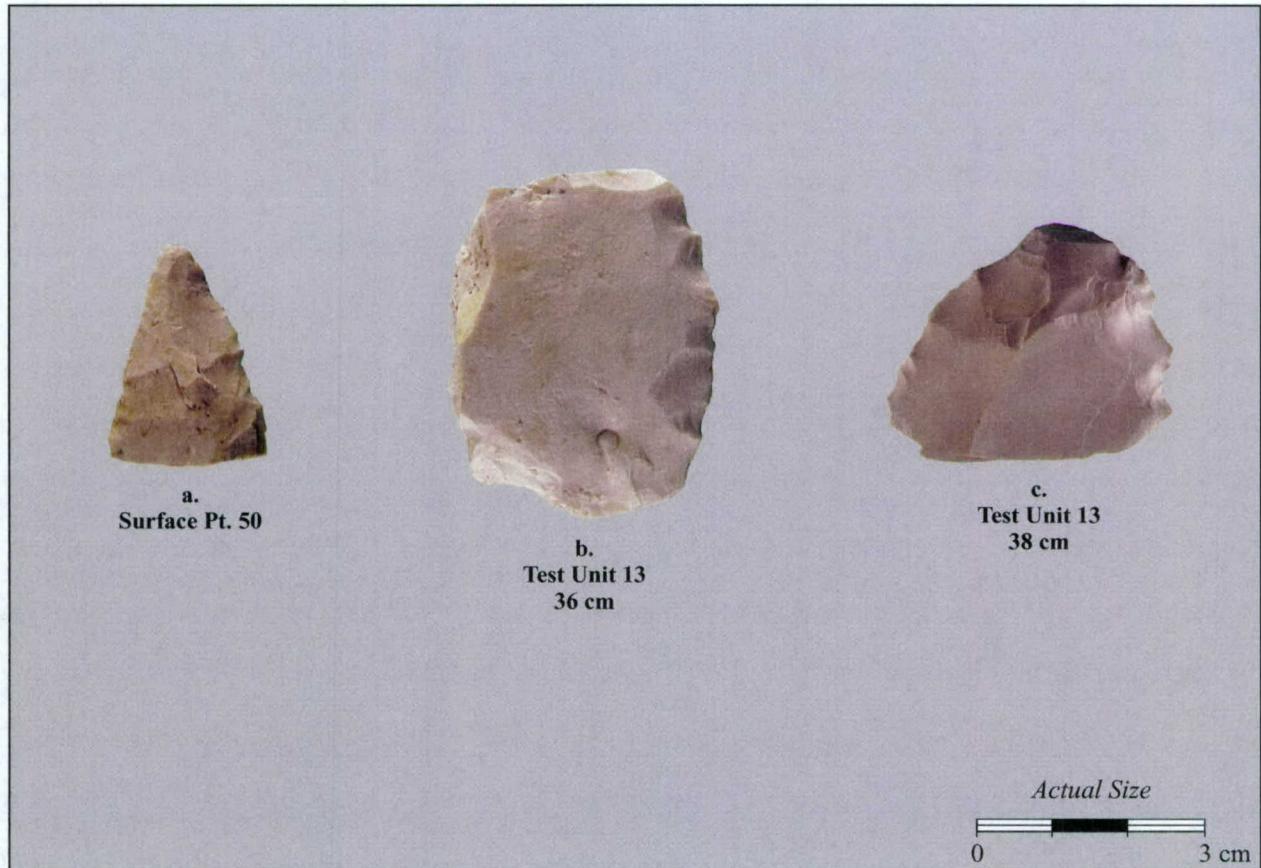


Figure 27. Examples of nondiagnostic bifaces from the Helmkamp site: (a) projectile point tip; (b) adz; (c) unfinished biface, Stage 2.

Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

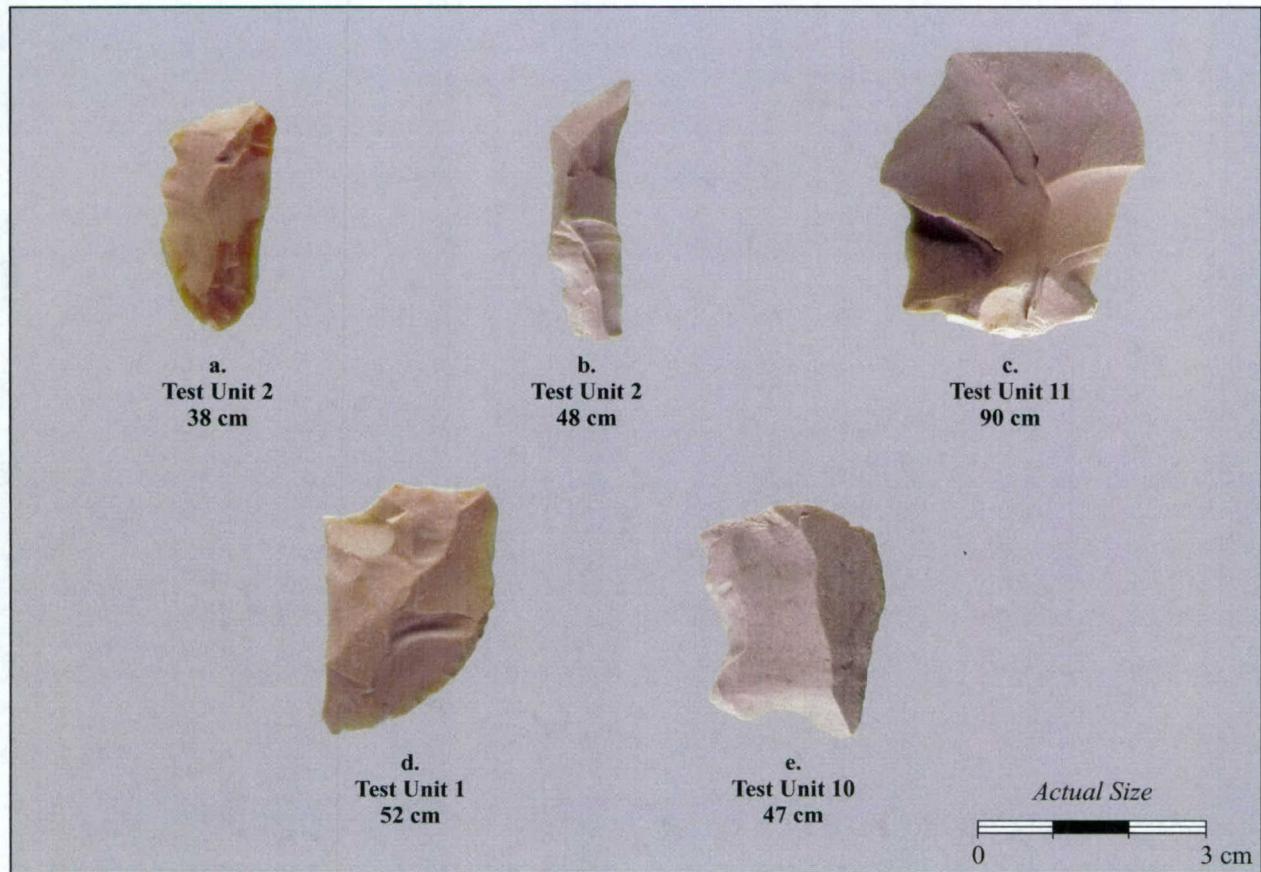
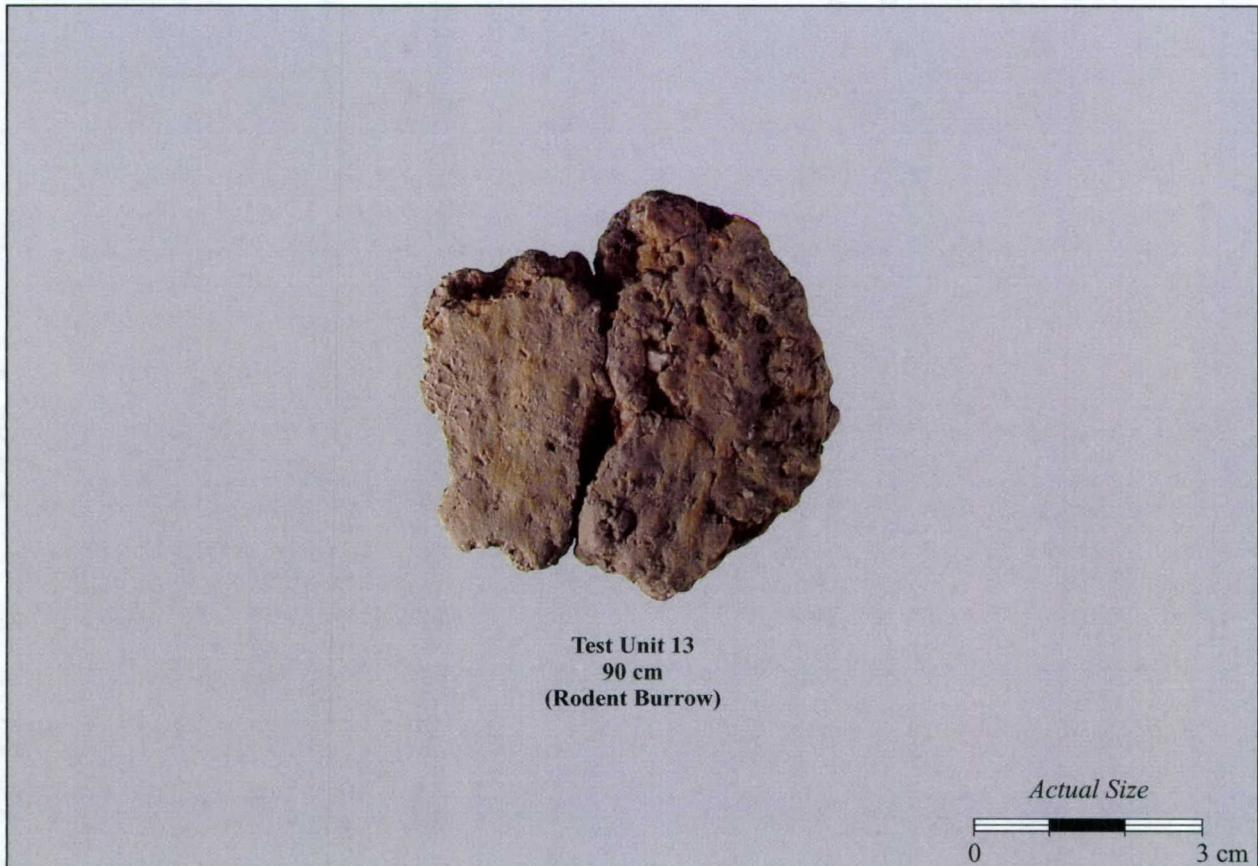


Figure 28. Examples of flake-tools from the Helmkamp site: (a-c) knives; (d and e) scrapers.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230



Test Unit 13
90 cm
(Rodent Burrow)

Actual Size

0 3 cm

Figure 29. Early Woodland Marion Thick potsherd from the Helmkamp site.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

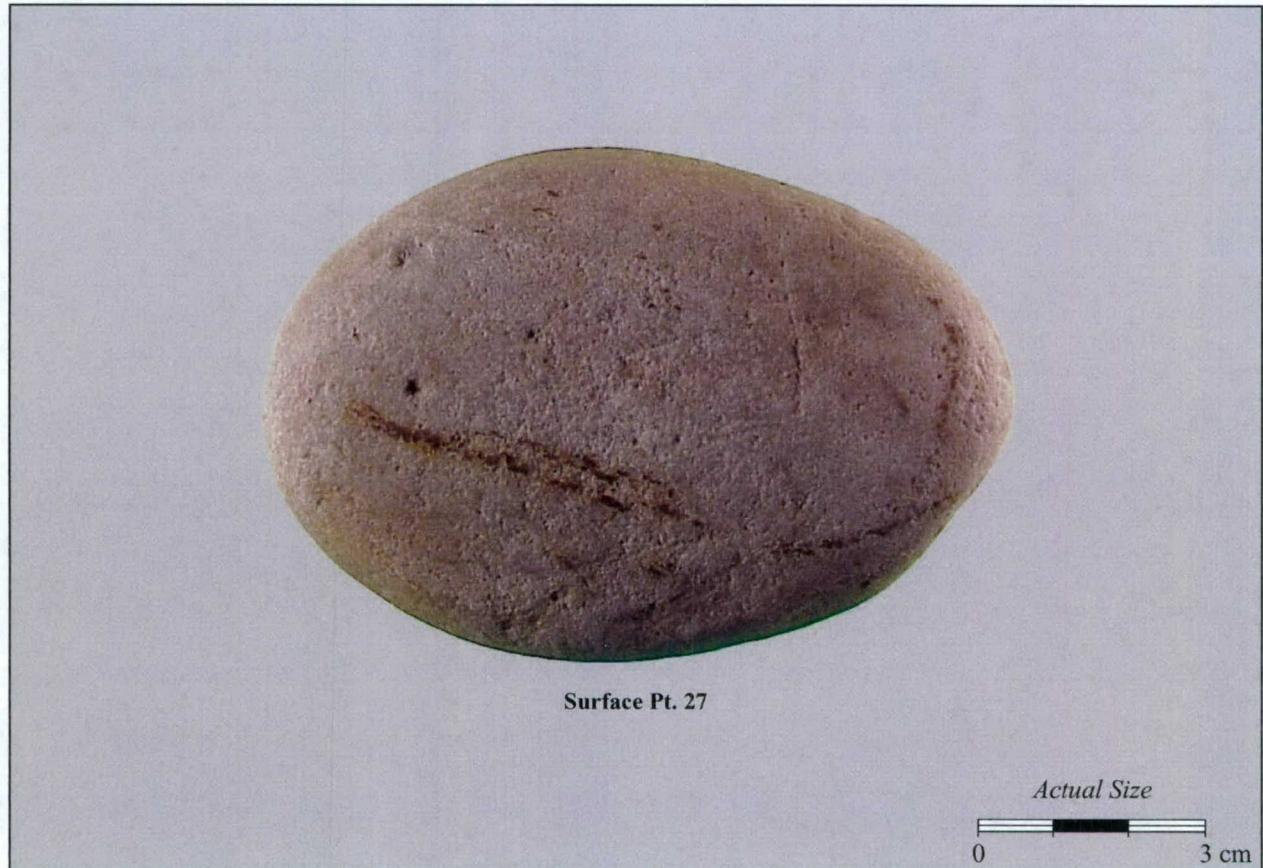


Figure 30. Hammer/grinder/bipolar hammer cobble tool from the Helmkamp site.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230



Figure 31. Double platform core from Helmkamp west.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230



Figure 32. Phase II testing of Helmkamp west. View to the northeast.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

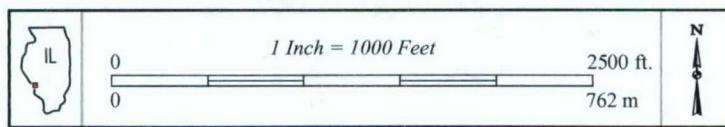
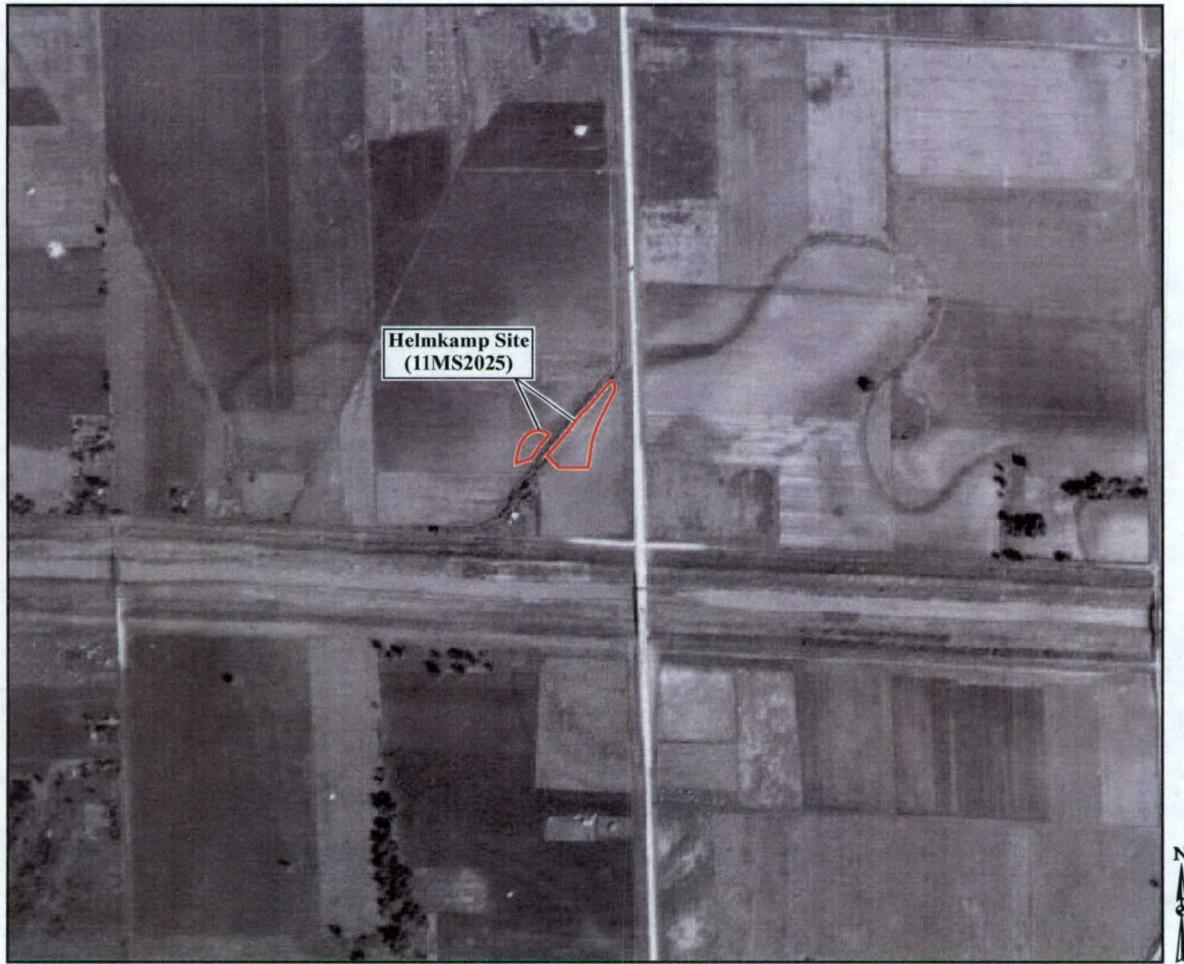


Figure 33. 1941 aerial photograph of the Helmkamp site.
Field Dates: 5/17/04-5/24/04 & 11/29/04-12/3/04

BCA #1199/1230

APPENDIX A
Scope of Work and Correspondence

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, AND 30				1. REQUISITION NUMBER	PAGE 1 OF 30
2. CONTRACT NO. W912P9-04-P-1048	3. AWARD/EFFECTIVE DATE 28 April 2004	4. ORDER NUMBER	5. SOLICITATION NUMBER W912P9-04-T-7050	RECEIVED CEMVS-CT	6. SOLICITATION ISSUE DATE 01-Apr-2004
7. FOR SOLICITATION INFORMATION CALL:	a. NAME BARRIETTA KILLIEBREW	b. TELEPHONE NUMBER (No Collect Calls) 314-331-8514	c. DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE	d. OFFER DUE DATE/LOCAL TIME 04:30 PM 13 Apr 2004	
9. ISSUED BY CONTRACTING DIVISION USARMY ENGR DIST ST LOUIS 1222 SPRUCE ST RM 4.207 ST LOUIS MO 63103-2833	CODE W912P9	10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED <input type="checkbox"/> SET ASIDE: % FOR SMALL BUSINESS <input type="checkbox"/> SMALL DISADV. BUSINESS 8(A)	11. DELIVERY FOR FOB APR 13 AM 0:23	12. DISCOUNT TERMS N/A	
TEL: 314-331-8500 FAX: 314-331-8746		SIC: SIZE STANDARD:	13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		
5. DELIVER TO	CODE	16. ADMINISTERED BY	14. METHOD OF SOLICITATION <input checked="" type="checkbox"/> RFQ <input type="checkbox"/> IFB <input type="checkbox"/> RFP	CODE	
SEE SCHEDULE		SEE ITEM 9			
17a. CONTRACTOR/ OFFEROR Bear Creek Archeology, Inc. 4091 Yellow Avenue Box 347 Cresco, Iowa 52136	CODE OF2RO	18a. PAYMENT WILL BE MADE BY USACE FINANCE CENTER ST LOUIS DISTRICT (B3) 5722 INTEGRITY DRI MILLINGTON TN 38054-5050	CODE W912P9		
TEL. 563-547-4545	FACILITY CODE				
17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER	18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a. UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM				
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/ SERVICES SEE SCHEDULE	21. QUANTITY	22. UNIT	23. UNIT PRICE \$19,867.76	
				24. AMOUNT \$19,867.76	
25. ACCOUNTING AND APPROPRIATION DATA					26. TOTAL AWARD AMOUNT
27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1. 52.212-4. FAR 52.212-3. 52.212-5 ARE ATTACHED.					ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED
27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED.					ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED
28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.		0 COPIES	29. AWARD OF CONTRACT: REFERENCE <input type="checkbox"/> OFFER DATED YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:		
30a. SIGNATURE OF OFFEROR/CONTRACTOR 		31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)			31c. DATE SIGNED 4/28/04
30b. NAME AND TITLE OF SIGNER TYPE OR PRINT David G. Stanley, President		30c. DATE SIGNED 4-7-04	31b. NAME OF CONTRACTING OFFICER (TYPE OR PRINT) TEL: Gail Evans EMAIL:		
32a. QUANTITY IN COLUMN 21 HAS BEEN RECEIVED <input type="checkbox"/> INSPECTED <input type="checkbox"/> ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED		33. SHIP NUMBER		34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR
		<input type="checkbox"/> PARTIAL	<input type="checkbox"/> FINAL		
32b. SIGNATURE OF AUTHORIZED GOVT. REPRESENTATIVE		32c. DATE	36. PAYMENT <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL		
34a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT			37. CHECK NUMBER		
34b. SIGNATURE AND TITLE OF CERTIFYING OFFICER		34c. DATE	38. S/R ACCOUNT NUMBER	39. S/R VOUCHER NUMBER	40. PAID BY
			42a. RECEIVED BY (Print)		
			42b. RECEIVED AT (Location)		
			42c. DATE REC'D (YY/MM/DD)	42d. TOTAL CONTAINERS	
45. AUTHORIZED FOR LOCAL REPRODUCTION					

Section SF 1449 - CONTINUATION SHEET

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lump Sum		
	ARCHAEOLOGICAL INVESTIGATION CONTRACT				
	FFP				
	ARCHAEOLOGICAL INVESTIGATION CONTRACT				
					\$19,867.76
				NET AMT	

FOB: Destination

SPECS

Please provide breakdown of lump sum price.

This solicitation is evaluated using factors other than price. See FAR 52-212-2
For evaluation factors.

For information regarding this solicitation, maps, site form, and wage determination contact Barrietta Killiebrew at (314) 331-8514 or by e-mail at barrietta.killiebrew@mvs02.usace.army.mil.

**Phase II Eligibility Testing at the Helmkamp Site (11MS2025),
Proposed Grassy Lake Pump Station and Associated Ditch Work,
Wood River Drainage and Levee District,
Madison County, Illinois**

1. **Statement of Work.** The work to be accomplished by the Contractor consists of furnishing all labor, supplies, material, plant and equipment necessary to conduct Phase II testing for eligibility for inclusion on the National Register of Historic Places (NRHP) at the Helmkamp Site (11MS2025) at the location of the proposed Grassy Lake Pump Station and associated ditch work, Wood River Drainage and Levee District (WRD&LD), Madison County, Illinois. Also the Contractor shall determine if it is possible to locate the pump station in the defined project area and not impact historic properties. All work will be conducted on private land along the Cahokia Creek Diversion Canal (CCDC) managed by the WRD&LD. All work accomplished by the Contractor will be reviewed and approved by the Corps of Engineers, St. Louis District (Government), Contracting Officers Representative (COR).

1.1 The main objectives of this work order are (1) to determine if it is possible to locate the Grassy Lake pump station in the project area without impacting significant historic properties and (2) to determine the eligibility or ineligibility for NRHP inclusion of the Helmkamp Site (11MS2025) previously identified by surface and subsurface investigations which as presently defined is at the location of the Grassy Lake Pump Station construction. Testing shall be sufficient for the Government to determine the eligibility or ineligibility of the site. This shall include the vertical and horizontal site dimensions and the site occupations and probable functions. The artifact and feature density and distribution across the site shall be determined. Determining site integrity is critical, since crayfish burrows have disturbed the site. If NRHP eligibility is recommended, the report shall state what data the site is likely to yield. In defining the site's horizontal extent, the area east of the site, as presently defined, shall be investigated to determine if there is sufficient area to relocate the pump station outside the archaeological site.

1.2 The major constituents of the order are (1) Phase II subsurface testing, which may include controlled surface collection, mechanical stripping, test excavation, backhoe trenching, and/or augering to investigate the known occupation (surface to about 60 cm below surface [bs]); (2) determining whether a second occupation exists at about 105–125 cm bs, (3) investigating whether the site integrity is still high, given the extent of bioturbation (crayfish burrows); (4) determining if Grassy Lake pump station inlet box and inlet ditch can be located elsewhere in the project area without impacting significant historic properties; (5) preparing a quality technical report on the results of the investigations, which meets this Scope of Work and the Illinois State Historic Preservation Office Guidelines for Archaeological Survey and Reporting Requirements, and (5) providing recommendations for avoidance or Phase III data recovery of the site if it is recommended as eligible.

2. **Project Description.** The project purpose is to alleviate interior ponding in the Grassy Lake area of the WRD&LD during those times when gravity flow is impeded by high water levels in the Mississippi River and the CCDC. The pump station and ditch project was authorized by the Flood Control Act, which was approved 27 October 1965 by Public Law 89-298, House Document No. 150 88th Congress, First Session. The proposed pump station will be located on the north side of the CCDC, just west of Illinois Route 111 and east of the existing northwest ditch. The electric pump will be housed in a structure excavated through the seepage berm of the CCDC levee. A 72-inch diameter pipe will run from the pump station north under the road paralleling the berm and into the inlet box on the north side of the road. An inlet ditch approximately 110 feet long x 70 feet top width and 10 feet bottom width x 10 feet deep will be excavated from the inlet structure pump station to the northwest ditch. (A pump discharge pipe will run over the CCDC north flank levee and exit into the diversion canal via an existing 72-inch gravity drain gate well structure.)

2.1 The area requiring investigation will be the approximately three-acre field including the inlet structure, inlet ditch, and ditch paralleling road. The triangular field is bounded by Highway 111 (east), the CCDC (south) and an

existing ditch (northwest). The project area is primarily agricultural. The existing northwest ditch channel and adjacent spoil bank are wooded.

3. Background. The Grassy Lake Pump Station project location was briefly surveyed by District personnel in 1998; surface visibility was low and no cultural material was observed. However, recent geomorphic study of the northern American Bottom had defined the pump station project area as a landform that might contain buried prehistoric archaeological sites. A geomorphological investigation for buried archaeological deposits was conducted by Strata Morph Geoexploration, Inc., Sun Prairie, Wisconsin, in April 2002. District personnel completed surface survey of the project area. The Helmkamp archaeological site (11MS2025) was defined in the southwest corner of the agricultural field where the pump inlet box and ditch are planned. On the surface the artifacts were scattered in a triangular area about 220 feet north-south x 220 feet east-west; the material was concentrated in a smaller triangular area about 120 feet north-south x 100 feet east-west. Artifacts dated to the Archaic and (Middle to Late) Woodland periods. The cultural material is present on the surface, in the plow zone, and to about one foot below the plow zone (60 cm below surface); a buried deposit designated Feature 1 was found between 105 and 125 cm below surface in Trench 2. In Trenches 2 and 3, charcoal and calcined bone were present between about 60 and 105 cm bs but appeared associated with crayfish burrows; no cultural material was found at this level. No discrete buried land surface could be defined in either the contractor's geomorphological cores or the District geologic cores associated with Feature 1 or elsewhere in the cores. The nature and origin of the Feature 1 buried deposit should be better defined. At present three possibilities are being considered: (1) the buried artifacts are in a secondary context having moved down from the surface/upper deposit; (2) the buried artifacts are in primary context and have been buried by alluvial sedimentation; or (3) the buried artifacts represent a pit feature originating between 105 cm bs and the plowzone base.

The Helmkamp site eligibility will depend in part on its integrity. The contractor found that the project area had not been disturbed by construction of the Diversion Canal levee & berm. However, below the plow zone the site is very disturbed by old crayfish burrows (estimated 50– 60% of the ground). Site integrity will depend in part on whether the prehistoric material found below the plow zone is in place or whether it moved up or down the crayfish burrows from where it was originally deposited.

4. Specifications.

4.1 Literature review. The Contractor shall be familiar with current literature on the archaeology and geomorphology of the Wood River area, including, but not limited to the following.

Hajic, Edwin R.

1993 Geomorphology of the Northern American Bottom as Context for Archaeology. *Illinois Archaeology* 5(1–2):54–65.

This literature will be used in interpretations of the fieldwork.

4.2 Fieldwork. Work should be conducted in stages. After each investigative stage, and based on the results of that stage, the Contractor shall make recommendations to the Government for the next investigative stage; however, the Government will make final decisions.

4.2.1 Investigation stages may be as follows:

4.2.1.1 Controlled surface collection across project area to determine site horizontal boundaries.

4.2.1.2 Strip portion of construction area (inlet structure, inlet ditch, and eastern road ditch) and portion of project area to look for archaeological features and to assess bioturbation. The Contractor shall map and excavate archaeological features. The Contractor may investigate the surface/upper cultural deposits by removing the plow zone alone from all or part of the proposed construction areas. The Contractor may also strip and investigate enough of the area east of the construction area to determine whether the archaeological site extends into this area.

4.2.1.3 The Contractor may hand excavate units (usually minimum size 1 x 2 m [39 inches x 78 inches]) to depth of

cultural material.

4.2.1.4. The Contractor shall conduct backhoe and/or augering and/or hand excavations to determine nature and extent of buried deposit in the Feature 1 vicinity and elsewhere within the site. The Contractor shall investigate to below depth of the buried artifacts in Feature 1 (below 125 cm).

4.2.2 A representative sample of exposed features shall be excavated, but not any feature that is likely to be a burial, unless directed by the Government. Non-architectural features may be excavated by cross sectioning the feature, removing $\frac{1}{2}$ as a block and excavating the remaining $\frac{1}{2}$ in natural levels, if apparent. A sample of fill from each feature excavated may be taken for flotation at the Contractor's discretion. However no more than 10 samples shall be taken without express agreement of the Government. The amount of fill that is taken and floated shall be 10 liters or the entire feature (or natural levels, if present), whichever volume is smaller. If during the course of excavation the feature is determined to be natural (i.e. rodent burrow, tree root), excavation shall be terminated. If necessary, the excavation unit will be expanded to reveal the feature.

4.2.3 The Contractor shall backfill all subsurface investigations with previously removed soil, except feature soil samples.

4.3 Recommendations. The Contractor shall make recommendations in the report for potential impact avoidance and/or data recovery of any archaeological material recovered by the investigation.

4.4 Photographs: Photographs shall be black-and-white prints and color slides and/or digital images. A photographic log of annotated 35-mm slides showing each phase of investigation in progress shall be kept. Photographs included with the report shall show details of field conditions, features, profiles, artifacts, or other evidence of past cultural activity.

4.5 Mapping. The Contractor shall plot the locations of the archaeological site, excavation units, cores, backhoe trenches), and any other relevant features on Corps provided project contour maps and U.S.G.S. topographic map. The Contractor is responsible for obtaining GPS readings for excavation units and archaeological features recorded.

4.6 Laboratory Procedures. The contractor shall analyze the collection by separating the artifacts into appropriate material categories, then subdividing as needed into smaller, functional and stylistic categories. Basic analytical studies include, but are not limited to, the following.

4.6.1. Lithic analysis. This shall include a description of morphological, functional, and stylistic attributes, as well as the identification of raw material. Analysis shall also determine intrasite and local relationships.

4.6.2. Ceramic analysis. This shall include a description of morphological and stylistic attributes and shall also identify intrasite and local relationships.

4.6.3. Floral analysis. A paleoethnobotanist shall identify floral remains collected or recovered through flotation utilizing a volumetrically and statistically controlled sample where possible.

4.6.4. Faunal analysis. A zooarchaeologist shall identify faunal remains collected or recovered through flotation utilizing a volumetrically and statistically controlled sample where possible.

4.6.5. Radiocarbon dating. The Contractor shall collect and containerize all excavated materials that would be suitable for radiocarbon dating. The Contractor will make recommendations for samples to be dated, but will not

conduct the dating unless instructed by the Government. The Government will make the final decision and may conduct the dating separately from this contract.

4.7. Curation (C-4). The Contractor shall provide for storage and retrieval facilities for all artifacts, specimens, records and other documents of the investigation performed under this delivery order and the previous 2002 geomorphic investigation prior to final deposition of material.

4.7.1 Since artifacts recovered by the project are the property of the landowner, the Contractor will request that the landowner/tenants permanently donate artifacts collected during the investigations to an appropriate repository. The Contractor will emphasize to landowner/tenants that this is their decision. If landowner/tenant agrees to donate artifacts, the artifacts collected during the investigation shall be cleaned, permanently labeled, and catalogued according to the

St. Louis District Curation Standards. If the landowner does not specify a repository, the Contractor will be responsible for selecting a repository. The Contractor will also arrange for and transmit paperwork transferring ownership from the landowner/tenant to the repository and will transport the artifacts to the repository.

4.7.2 Since all records (field notes, photographs, reports) generated by the investigation are the property of the Government, the Contractor will prepare these for curation according to the St. Louis District Curation Standards. The Government may inspect the records for compliance with its standards. Following acceptance of the draft report and inspection of the records, the records shall be curated at the Illinois State Museum (ISM). The Contractor shall prepare the records for curation according to the St. Louis District Curation Checklist for Deposit of Archaeological Materials. At the time the records are transferred to ISM, the Contractor shall obtain a receipt from ISM for the records and forward a copy of the receipt to the Government.

4.7.3 If the landowner declines to donate them, the artifacts collected during survey shall be cleaned and catalogued. Diagnostic artifacts and other representative artifacts shall be photographed/scanned to provide a permanent record. The Contractor shall analyze the collection by separating the artifacts into appropriate material categories, then subdividing as needed into smaller, functional and stylistic categories. Basic analytical studies include, but are not limited to, those listed above. After the final report is completed, and has been reviewed and accepted by the Government, the artifacts shall be returned to the private landowner, unless otherwise directed.

4.8 Human remains are not anticipated at the project area, but in the event that they are encountered, the Contractor shall immediately stop work in the vicinity of the human remains and notify the Project Manager, Ms. Michelle Kneip and Project Archaeologist, Ms. Suzanne E. Harris to determine the subsequent course of action under relevant state law. Since this is private not federal land, applicable state laws must be followed. If burials are discovered, the Contractor will notify the Government, the County Coroner, and the Illinois SHPO pursuant to 20 Illinois Compiled Statutes (ILCS) 3440 and 17 Illinois Administrative Code (IAC) 4170.

5. Meetings: Meetings shall be held as necessary.

6. Location and Description of the Study Area: Maps showing project locations shall be furnished to the Contractor by the Government.

7. Reporting:

7.1 Preliminary Fieldwork Results Report. Within 7 days of completion of the fieldwork, the Contractor shall provide the Government with a brief letter or e-mail reporting preliminary fieldwork results, including, if possible, the presence or absence of significant archaeological remains within the project area.

7.2 Illinois Historic Preservation Agency, Archaeological Survey Short Report (ASSR). A copy of the ASSR form shall be provided in the draft and final reports.

7.3 Draft Report. The Contractor shall submit a draft report that shall be a complete and accurate representation of the final report. The report shall be a technical report of the results of the excavations and also shall address the

significance of the portion of the site investigated. This may include discussion of how the results of the work will contribute to the present understanding of the northern American Bottom culture history. The draft (and final) reports shall include photographs and/or graphics that shall accurately show the location and topographic position of the investigations, the location of subsurface and geomorphological investigations, and details of features, profiles, artifacts, or any other cultural evidence. The draft report shall be typed and double spaced, and three (3) copies shall be provided to the Project Archaeologist. All pages shall be numbered. The draft shall be completely proofread so that it shall be as free of typographical errors and other editorial deficiencies as possible. Drawings, tables, and other non-photographic illustrations shall appear in the same quality, size, format, and location in the draft report as they will be in the final report. Photographs shall not be enlarged and reproduced for the draft report. The Contractor shall submit contact prints with recommendations for those to be included in the final report to the Government. The Government will review these and make the final selections for those to be included in the final report. The contractor shall then be responsible for enlargement and reproduction as instructed by the Government.

7.4 Final Report. The final report shall incorporate review comments made on the draft report; these comments shall be submitted to the Contractor by the Government. The Final Report shall be compiled and reproduced according to the following specifications.

- a. An abstract suitable for publication shall be prepared and shall be included in the front of each copy of the final report. The abstract shall consist of a brief (not to exceed one typewritten single spaced page) summary useful for informing the technically oriented professional public of what the author considers to be the results and contributions of the investigation.
- b. (Defense Technical Information Center) DTIC form on the inside front cover of the report.
- c. The final report shall be typed and single spaced, and 50 copies shall be provided to the Government.
- d. The contractor shall use prepared report covers provided by the government for the final report and shall be responsible for binding the final report in these covers, using Plastic Spiral Binding.
- e. Photographs required are specified above, paragraphs 4.7 and 7.3.
- f. A full set of reproducible drawings and maps shall be included with the final report original and shall be reproduced in its copies. All drawings and maps shall include title blocks showing title, scale, legend, and (where applicable) magnetic and geographic north.
- g. All drafting shall be accomplished in ink on stable-based drafting film or by computer generated graphics of comparable quality. Drafting ink shall be compatible with stable-based film.
- h. Either mechanical or computer-generated lettering may be used and shall be in accordance with good drafting practice.

8. Government Furnished Information: The Government shall furnish to the Contractor the following items: (1), St. Louis District, Engineering Documentation Report (EDR), Wood River Drainage and Levee district, Illinois (020180)-Grassy Lake Pump Station, May 2000, (2) the portion of the USGS 7.5 minute topographic map showing the project location, (3) the current project plans, (4) the geomorphological and archaeological investigations at the proposed Grassy Lake Pump Station, Madison County, Illinois by Michael F. Kolb and Suzanne E. Harris, 2002, (5) the general plan and borings for CCDC levee relocation, 1956, WRD&LD and boring log of relief well core (Bore Hole No. 1), and (6) a copy of the right-of-entry (ROE) form for the project area, *with landowner contact information.*

9. Publicity. The Contractor shall not release any information to the public without written approval of the Government. It is not the Government's intent to restrict in any way the Contractor's desire to publish in scholarly or academic journals.

10. Right-of-Entry. The land in the contract area is NOT federally owned. Land adjacent to the road is owned by the WRD&LD, but most of the land is privately owned. At least one week prior to beginning fieldwork, the Contractor shall notify Ms. Suzanne E. Harris, Project Archaeologist, St. Louis District, at (314) 331-8467, FAX (314) 331-8806, e-mail suzanne.e.harris@mvs02.usace.army.mil. The Contractor shall also notify Mr. Vince Milazzo, WRD&LD Superintendent, at (618) 254-7481, FAX (618) 254-7482, cell (618) 973-9176.

The Contractor shall obtain locations of all buried utility lines within the project corridor and avoid them during subsurface testing. Contractor shall obtain any required utility ROEs.

11. Schedule of Work:

11.1 Post-Award Meeting. After the issuance of the purchase order notice to proceed, the Contractor shall meet with Government representatives as appropriate.

11.2 Field Work. All fieldwork shall be completed within 45 calendar days of the issuance of the purchase order notice to proceed.

11.3 Preliminary Field Results Letter. A brief letter report or e-mail detailing the preliminary field results shall be provided to the St. Louis District 7 calendar days after completion of the fieldwork.

11.4 Report. Full letter report shall be completed with 120 calendar days following issuance of the purchase order.

11.5 Review. Any Government review comments will be furnished to the Contractor within 45 calendar days after receipt of the letter report. The Government shall conduct coordination with the Illinois State Historic Preservation Officer.

12. Time Extensions. In the event the schedules in paragraph 11 above are exceeded due to causes beyond the control and without the fault or negligence of the Contractor, the purchase order will be modified in writing and the Contract completion date will be extended one calendar day for each calendar day of delay.

FOB: Destination

CLAUSES INCORPORATED BY FULL TEXT

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL. 1995)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the \$25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed \$25,000, to

disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

- (1) The name of the subcontractor.
- (2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
- (3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.
- (4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.212-3 OFFEROR REPRESENTATIONS AND CERTIFICATIONS--COMMERCIAL ITEMS (JAN 2004)

(a) Definitions. As used in this provision:

"Emerging small business" means a small business concern whose size is no greater than 50 percent of the numerical size standard for the NAICS code designated.

"Forced or indentured child labor" means all work or service-

- (1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or
- (2) Performed by any person under the age of 18 pursuant to a contract the enforcement of which can be accomplished by process or penalties.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

- (i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and
 - (ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.
- (2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and size standards in this solicitation.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern" means a small business concern--

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; or

(2) Whose management and daily business operations are controlled by one or more women.

"Women-owned business concern" means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Taxpayer Identification Number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701). (Not applicable if the offeror is required to provide this information to a central contractor registration database to be eligible for award.)

(1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).

(2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(3) Taxpayer Identification Number (TIN).

TIN: _____

TIN has been applied for.

TIN is not required because:

Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

Offeror is an agency or instrumentality of a foreign government;

Offeror is an agency or instrumentality of the Federal Government.

(4) Type of organization.

Sole proprietorship;

- Partnership;
- Corporate entity (not tax-exempt);
- Corporate entity (tax-exempt);
- Government entity (Federal, State, or local);
- Foreign government;
- International organization per 26 CFR 1.6049-4;
- Other-----

(5) Common parent.

- Offeror is not owned or controlled by a common parent;
- Name and TIN of common parent:

Name-----

TIN-----

(c) Offerors must complete the following representations when the resulting contract will be performed in the United States or its outlying areas. Check all that apply.

- (1) Small business concern. The offeror represents as part of its offer that it () is, () is not a small business concern.
- (2) Veteran-owned small business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents as part of its offer that it () is, () is not a veteran-owned small business concern.
- (3) Service-disabled veteran-owned small business concern. (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.) The offeror represents as part of its offer that it () is, () is not a service-disabled veteran-owned small business concern.
- (4) Small disadvantaged business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents, for general statistical purposes, that it () is, () is not a small disadvantaged business concern as defined in 13 CFR 124.1002.
- (5) Women-owned small business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it () is, () is not a women-owned small business concern.

Note: Complete paragraphs (c)(6) and (c)(7) only if this solicitation is expected to exceed the simplified acquisition threshold.

- (6) Women-owned business concern (other than small business concern). (Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it () is, a women-owned business concern.

(7) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price:

(8) Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program. (Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.)

(i) (Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).) The offeror represents as part of its offer that it () is, () is not an emerging small business.

(ii) (Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DIGs).) Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

(Check one of the following):

Average Annual

Number of Employees Gross Revenues

- 50 or fewer \$1 million or less
- 51 - 100 \$1,000,001 - \$2 million
- 101 - 250 \$2,000,001 - \$3.5 million
- 251 - 500 \$3,500,001 - \$5 million
- 501 - 750 \$5,000,001 - \$10 million
- 751 - 1,000 \$10,000,001 - \$17 million
- Over 1,000 Over \$17 million

(9) (Complete only if the solicitation contains the clause at FAR 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns or FAR 52.219-25, Small Disadvantaged Business Participation Program-Disadvantaged Status and Reporting, and the offeror desires a benefit based on its disadvantaged status.)

(i) General. The offeror represents that either--

(A) It () is, () is not certified by the Small Business Administration as a small disadvantaged business concern and identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net), and that no material change in disadvantaged ownership and control has occurred since its certification, and, where the concern is owned by one or more

individuals claiming disadvantaged status, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It () has, () has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(ii) Joint Ventures under the Price Evaluation Adjustment for Small Disadvantaged Business Concerns. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(7)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. (The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: _____.)

(10) HUBZone small business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents, as part of its offer, that--

(i) It () is, () is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It () is, () is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: _____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(d) Certifications and representations required to implement provisions of Executive Order 11246--

(1) Previous Contracts and Compliance. The offeror represents that--

(i) It () has, () has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the and

(ii) It () has, () has not, filed all required compliance reports.

(2) Affirmative Action Compliance. The offeror represents that--

(i) It () has developed and has on file, () has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR Subparts 60-1 and 60-2), or

(ii) It () has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352). (Applies only if the contract is expected to exceed \$100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) Buy American Act Certificate. (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American Act--Supplies, is included in this solicitation.)

(1) The offeror certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products. The terms "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American Act--Supplies."

(2) Foreign End Products:

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g)(1) Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate. (Applies only if the clause at FAR 52.225-3, Buy American Act--Free Trade Agreements--Israeli Trade Act, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(1)(ii) or (g)(1)(iii) of this provision, is a domestic end product and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The terms "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act."

(ii) The offeror certifies that the following supplies are FTA country end products or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act":

FTA Country or Israeli End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(iii) The offeror shall list those supplies that are foreign end products (other than those listed in paragraph (g)(1)(ii) of this provision) as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act." The offeror shall list as other foreign end products those end products manufactured in the United States that do not qualify as domestic end products.

Other Foreign End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(iv) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(2) Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate, Alternate I (Jan 2004). If Alternate I to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act":

Canadian End Products:

Line Item No.

(List as necessary)

(3) Buy American Act--Free Trade Agreements--Israeli Trade Act Certificate, Alternate II (Jan 2004). If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled "Buy American Act--Free Trade Agreements--Israeli Trade Act":

Canadian or Israeli End Products:

Line Item No.

Country of Origin

(List as necessary)

(4) Trade Agreements Certificate. (Applies only if the clause at FAR 52.225-5, Trade Agreements, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(4)(ii) of this provision, is a U.S.-made, designated country, Caribbean Basin country, or FTA country end product, as defined in the clause of this solicitation entitled "Trade Agreements."

(ii) The offeror shall list as other end products those end products that are not U.S.-made, designated country, Caribbean Basin country, or FTA country end products.

Other End Products

Line Item No.:-----
Country of Origin:-----

(List as necessary)

(iii) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25. For line items subject to the Trade Agreements Act, the Government will evaluate offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products without regard to the restrictions of the Buy American Act. The Government will consider for award only offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products unless the Contracting Officer determines that there are no offers for such products or that the offers for such products are insufficient to fulfill the requirements of the solicitation.

(h) Certification Regarding Debarment, Suspension or Ineligibility for Award (Executive Order 12549). The offeror certifies, to the best of its knowledge and belief, that --

(1) The offeror and/or any of its principals () are, () are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency, and

(2) () Have, () have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and () are, () are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses.

(i) Certification Regarding Knowledge of Child Labor for Listed End Products (Executive Order 13126). [The Contracting Officer must list in paragraph (j)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) Listed End Product

Listed End Product	Listed Countries of Origin:

(2) Certification. [If the Contracting Officer has identified end products and countries of origin in paragraph (j)(1) of this provision, then the offeror must certify to either (j)(2)(i) or (j)(2)(ii) by checking the appropriate block.]

() (i) The offeror will not supply any end product listed in paragraph (j)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

() (ii) The offeror may supply an end product listed in paragraph (j)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that it has made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture any such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

(End of provision)

52.212-4 CONTRACT TERMS AND CONDITIONS-- COMMERCIAL ITEMS (OCT 2003)

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have

been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its post-acceptance rights (1) within a reasonable time after the defect was discovered or should have been discovered; and (2) before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) Assignment. The Contractor or its assignee may assign its rights to receive payment due as a result of performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes payment (e.g., use of the Governmentwide commercial purchase card), the Contractor may not assign its rights to receive payment under this contract.

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-1, Definitions, is incorporated herein by reference.

(f) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence such as, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement or any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(g) Invoice. (1) The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized) to the address designated in the contract to receive invoices. An invoice must include--

(i) Name and address of the Contractor;

(ii) Invoice date and number;

(iii) Contract number, contract line item number and, if applicable, the order number;

(iv) Description, quantity, unit of measure, unit price and extended price of the items delivered;

(v) Shipping number and date of shipment, including the bill of lading number and weight of shipment if shipped on Government bill of lading;

(vi) Terms of any discount for prompt payment offered;

(vii) Name and address of official to whom payment is to be sent;

(viii) Name, title, and phone number of person to notify in event of defective invoice; and

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision, contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(2) Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR part 1315.

(h) Patent indemnity. The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) Payment.--

(1) Items accepted. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract.

(2) Prompt payment. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and prompt payment regulations at 5 CFR part 1315.

(3) Electronic Funds Transfer (EFT). If the Government makes payment by EFT, see 52.212-5(b) for the appropriate EFT clause.

(4) Discount. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(5) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon:

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or

(2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b. destination.

(k) Taxes. The contract price includes all applicable Federal, State, and local taxes and duties.

(l) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of

the work performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(p) Limitation of liability. Except as otherwise provided by an express warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract.

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C. 327, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistleblower protections; 49 U.S.C. 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity.

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order: (1) the schedule of supplies/services; (2) the Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause; (3) the clause at 52.212-5; (4) addenda to this solicitation or contract, including any license agreements for computer software; (5) solicitation provisions if this is a solicitation; (6) other paragraphs of this clause; (7) the Standard Form 1449; (8) other documents, exhibits, and attachments; and (9) the specification.

(t) Central Contractor Registration (CCR). (1) Unless exempted by an addendum to this contract, the Contractor is responsible during performance and through final payment of any contract for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(2)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in FAR subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of subpart 42.12; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (t)(2)(i) of this clause, or fails to perform the agreement at paragraph (t)(2)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(3) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(4) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423 or 269-961-5757.

(End of clause)

52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (JAN 2004)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clause, which is incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items: 52.233-3, Protest after Award (AUG 1996) (31 U.S.C. 3553).

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: (Contracting Officer check as appropriate.)

 (1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUL 1995), with Alternate I (OCT 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).

 (2) 52.219-3, Notice of HUBZone Small Business Set-Aside (Jan 1999) (U.S.C. 657a).

 (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999) (if the offeror elects to waive the preference, it shall so indicate in its offer) (U.S.C. 657a).

 (4) (i) 52.219-5, Very Small Business Set-Aside (JUNE 2003) (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994).

 (ii) Alternate I (MAR 1999) to 52.219-5.

 (iii) Alternate II to (JUNE 2003) 52.219-5.

 (5)(i) 52.219-6, Notice of Total Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).

 (ii) Alternate I (OCT 1995) of 52.219-6.

- (6)(i) 52.219-7, Notice of Partial Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).
- (ii) Alternate I (OCT 1995) of 52.219-7.
- (7) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637 (d)(2) and (3)).
- (8)(i) 52.219-9, Small Business Subcontracting Plan (JAN 2002) (15 U.S.C. 637(d)(4)).
 - (ii) Alternate I (OCT 2001) of 52.219-9.
 - (iii) Alternate II (OCT 2001) of 52.219-9.
- (9) 52.219-14, Limitations on Subcontracting (DEC 1996) (15 U.S.C. 637(a)(14)).
- (10)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (JUNE 2003) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).
 - (ii) Alternate I (JUNE 2003) of 52.219-23.
- (11) 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (OCT 1999) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (12) 52.219-26, Small Disadvantaged Business Participation Program--Incentive Subcontracting (OCT 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (13) 52.222-3, Convict Labor (JUNE 2003) (E.O. 11755).
- (14) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (JAN 2004) (E.O. 13126).
- (15) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).
- (16) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).
- (17) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).
- (18) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).
- (19) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).
 - (20)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (AUG 2000) (42 U.S.C. 6962(c)(3)(A)(ii)).
 - (ii) Alternate I (AUG 2000) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).
 - (21) 52.225-1, Buy American Act--Supplies (JUNE 2003) (41 U.S.C. 10a-10d).
 - (22)(i) 52.225-3, Buy American Act--Free Trade Agreements--Israeli Trade Act (JAN 2004) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L. 108-77, 108-78).
 - (ii) Alternate I (JAN 2004) of 52.225-3.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) (1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vi) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--

(i) 52.219-8, Utilization of Small Business Concerns (October 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (April 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (December 2001) (38 U.S.C. 4212).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.222-41, Service Contract Act of 1965, as Amended (May 1989), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).

(vi) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (April 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the contractor may include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.204-7004. REQUIRED CENTRAL CONTRACTOR REGISTRATION ALTERNATE A (NOV 2003)

(a) Definitions. As used in this clause--

“Central Contractor Registration (CCR) database” means the primary Government repository for contractor information required for the conduct of business with the Government.

“Commercial and Government Entity (CAGE) code” means--

(1) A code assigned by the Defense Logistics Information Service (DLIS) to identify a commercial or Government entity; or

(2) A code assigned by a member of the North Atlantic Treaty Organization that DLIS records and maintains in the CAGE master file. This type of code is known as an “NCAGE code.”

“Data Universal Numbering System (DUNS) number” means the 9-digit number assigned by Dun and Bradstreet, Inc. (D&B) to identify unique business entities.

“Data Universal Numbering System +4 (DUNS+4) number” means the DUNS number assigned by D&B plus a 4-character suffix that may be assigned by a business concern. (D&B has no affiliation with this 4-character suffix.) This 4-character suffix may be assigned at the discretion of the business concern to establish additional CCR records for identifying alternative Electronic Funds Transfer (EFT) accounts (see Subpart 32.11 of the Federal Acquisition Regulation) for the same parent concern.

“Registered in the CCR database” means that--

(1) The Contractor has entered all mandatory information, including the DUNS number or the DUNS+4 number, into the CCR database;

(2) The Contractor's CAGE code is in the CCR database; and

(3) The Government has validated all mandatory data fields and has marked the records “Active.”

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee shall be registered in the CCR database prior to award, during performance, and through final payment of any contract, basic agreement, basic ordering agreement, or blanket purchasing agreement resulting from this solicitation.

(2) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation “DUNS” or “DUNS +4” followed by the DUNS or DUNS +4 number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one.

(1) An offeror may obtain a DUNS number--

- (i) If located within the United States, by calling Dun and Bradstreet at 1-866-705-5711 or via the Internet at <http://www.dnb.com>; or
 - (ii) If located outside the United States, by contacting the local Dun and Bradstreet office.
- (2) The offeror should be prepared to provide the following information:
- (i) Company legal business.
 - (ii) Tradestyle, doing business, or other name by which your entity is commonly recognized.
 - (iii) Company Physical Street Address, City, State, and Zip Code.
 - (iv) Company Mailing Address, City, State and Zip Code (if separate from physical).
 - (v) Company Telephone Number.
 - (vi) Date the company was started.
 - (vii) Number of employees at your location.
 - (viii) Chief executive officer/key manager.
 - (ix) Line of business (industry).
 - (x) Company Headquarters name and address (reporting relationship within your entity).
- (d) If the Offeror does not become registered in the CCR database in the time prescribed by the Contracting Officer, the Contracting Officer will proceed to award to the next otherwise successful registered Offeror.
- (e) Processing time, which normally takes 48 hours, should be taken into consideration when registering. Offerors who are not registered should consider applying for registration immediately upon receipt of this solicitation.
- (f) The Contractor is responsible for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.
- (g)(1)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of Subpart 42.12 of the FAR; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.
- (ii) If the Contractor fails to comply with the requirements of paragraph (g)(1)(i) of this clause, or fails to perform the agreement at paragraph (g)(1)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(2) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see FAR Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(h) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423, or 269-961-5757.

(End of clause)

252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

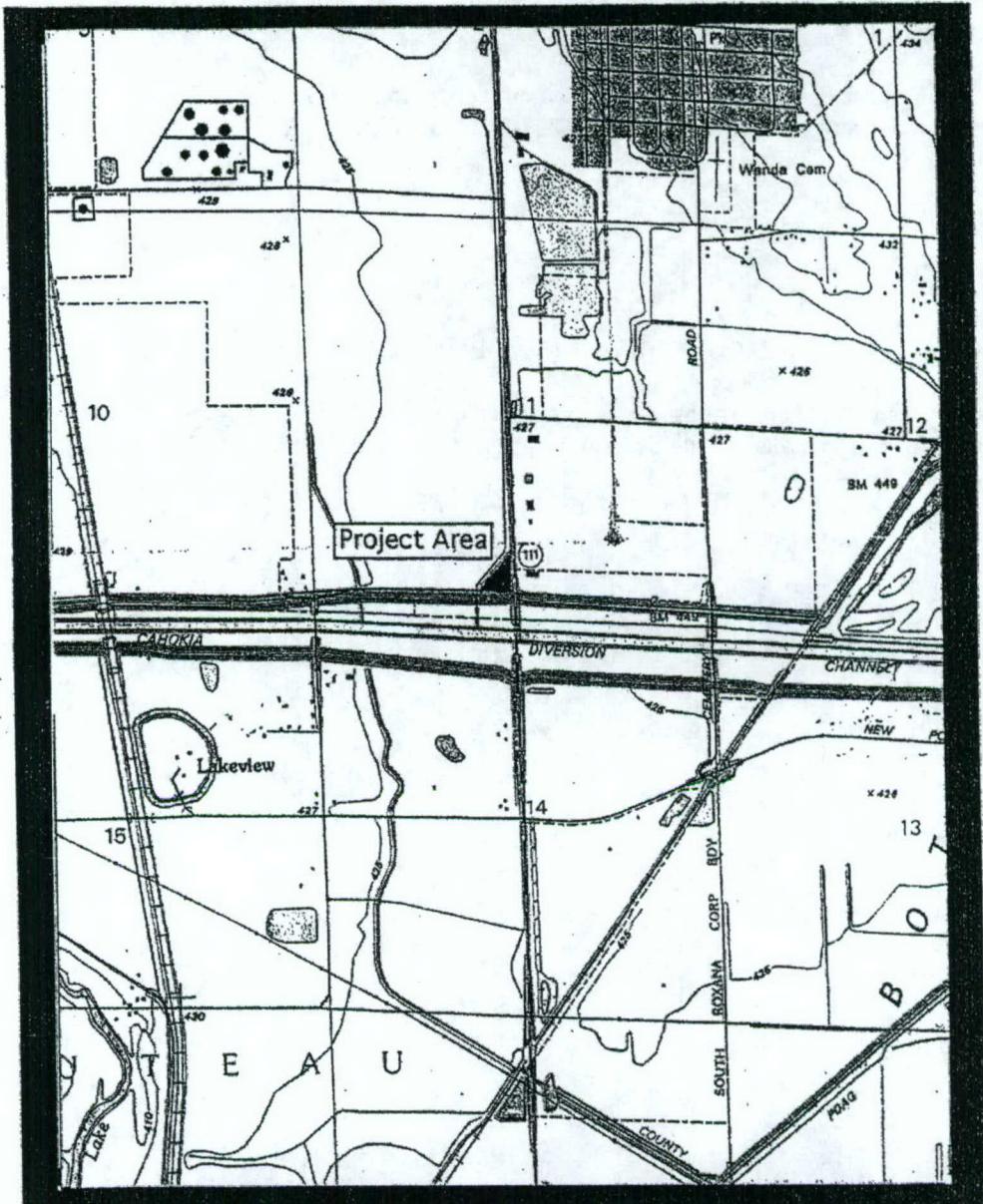


Figure 1. Location of the proposed Grassy Lake Pump Station project area on a portion of the 1:24,000 scale USGS topographic map (Wood River Quadrangle). North is up page and 1 inch = 2000 feet.

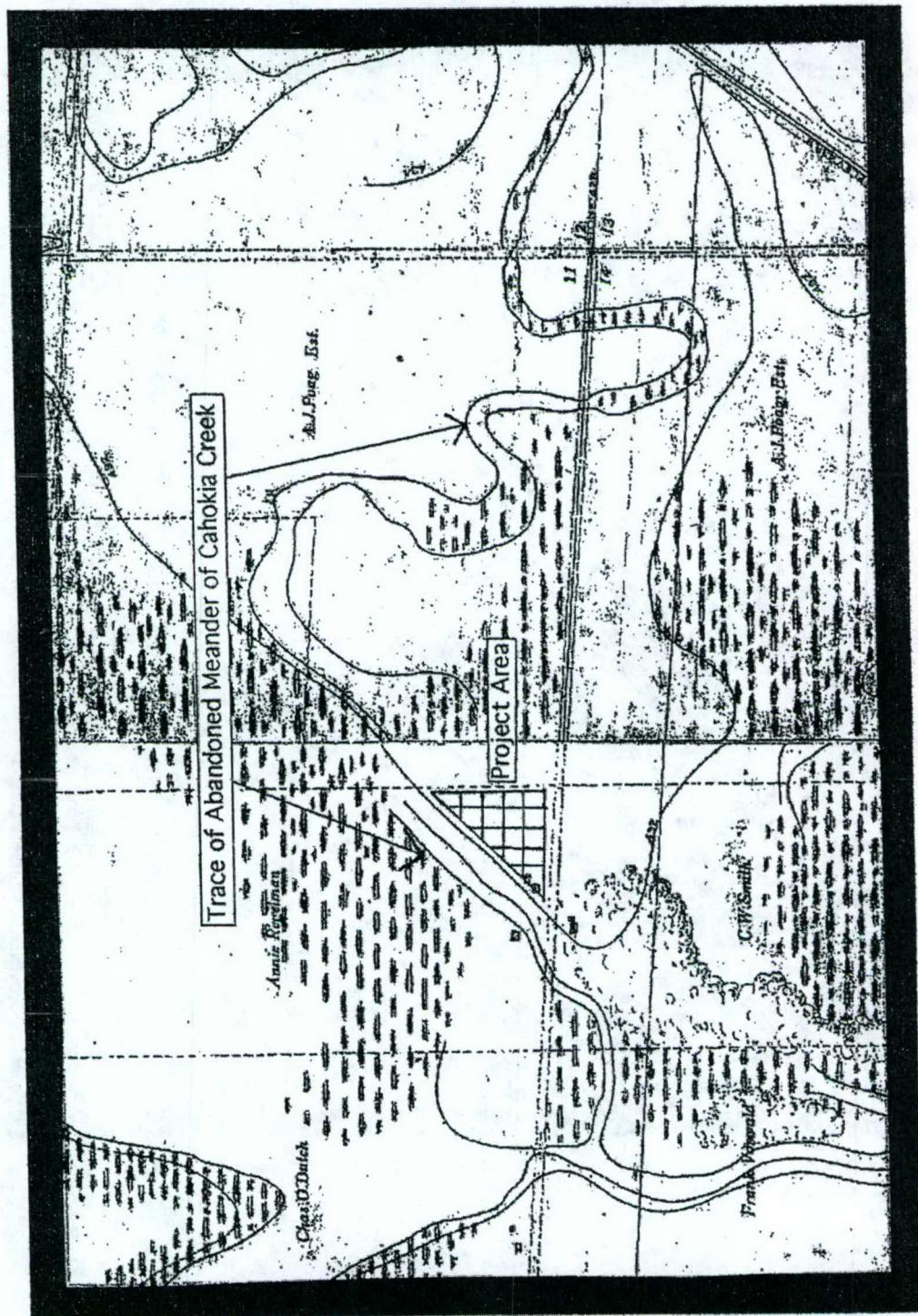


Figure 2. USACE map of the project area and vicinity circa 1909. Scale: 1" = 660'

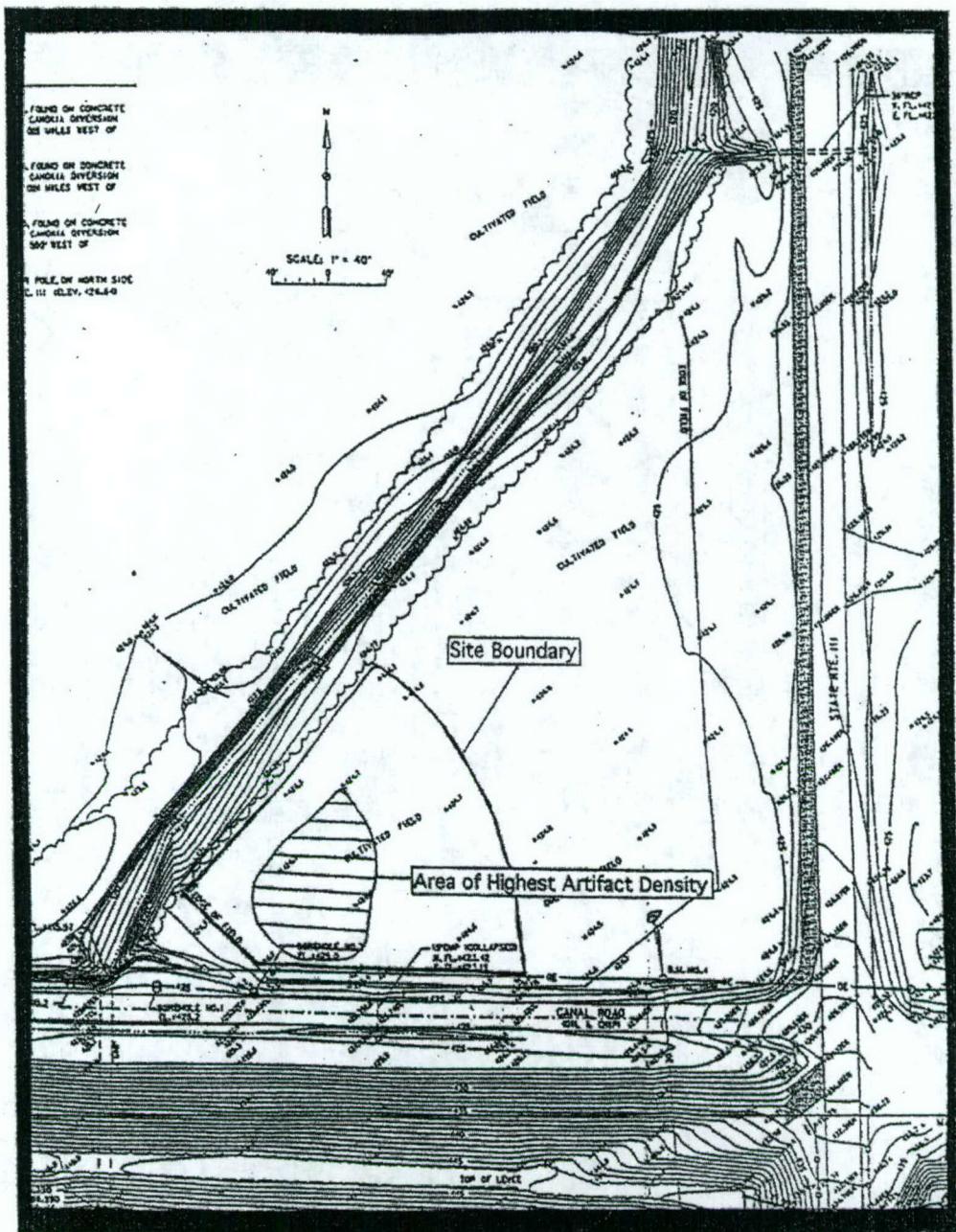


Figure 5. Location of the Helmkamp site (1IMS2025) within the Grassy Lake Pump Station project area.

Illinois Archaeological Site Recording Form

County Madison Site Name Helmkamp
 Field Number Grassy Lake #1 State Site Number 2025
 7.5 min Quadrangle Wood River Recorded 2002.06.03
LEGAL DESCRIPTION (to quarter quarter quarter section)
 Align 1/4s NESESESW Sec: 11 Twp: 4 N Rng: 9 W
 Align 1/4s Sec: 0 Twp: 0 Rng: 0
 Align 1/4s Sec: 0 Twp: 0 Rng: 0
 Align 1/4s Sec: 0 Twp: 0 Rng: 0

U.T.M. Coordinates for site center: (to be provided by ISM)
 U.T.M. Zone: 15 East U.T.M. 754654 North U.T.M. 4299186

Ownership Private Public

ENVIRONMENT

Topography Terrace Elevation(meters AMSL) 130
 Nearest Water Supply Cahokia Creek Drainage Basin Mississippi 8
 Soil Associations Lawson-Sawmill-Darwin

Description East side of meander bend of former Cahokia Creek (now drainage ditch emptying into Cahokia Diversion Canal).
 Low terrace of Mississippi River floodplain.

SURVEY

Project Name	Grassy Lake Pump Station	Site Area (square meters)	2478
Ground Cover	Bare Weeds	Surface Visibility (%)	90
Survey Methods	Pedestrian	Machinery	
Site Type	Habitation	<input type="checkbox"/> Standing Structure	

SITE CONDITION

Extent of Damage Moderate Main Cause of Damage Agriculture

MATERIAL OBSERVED

Number of Prehistoric Artifacts (count or estimate) 30 Number of Historic Artifacts (count or estimate) 0

- Prehistoric Diagnostic Artifacts
- Historic Diagnostic Artifacts
- Prehistoric Surface Features
- Historic Surface Features

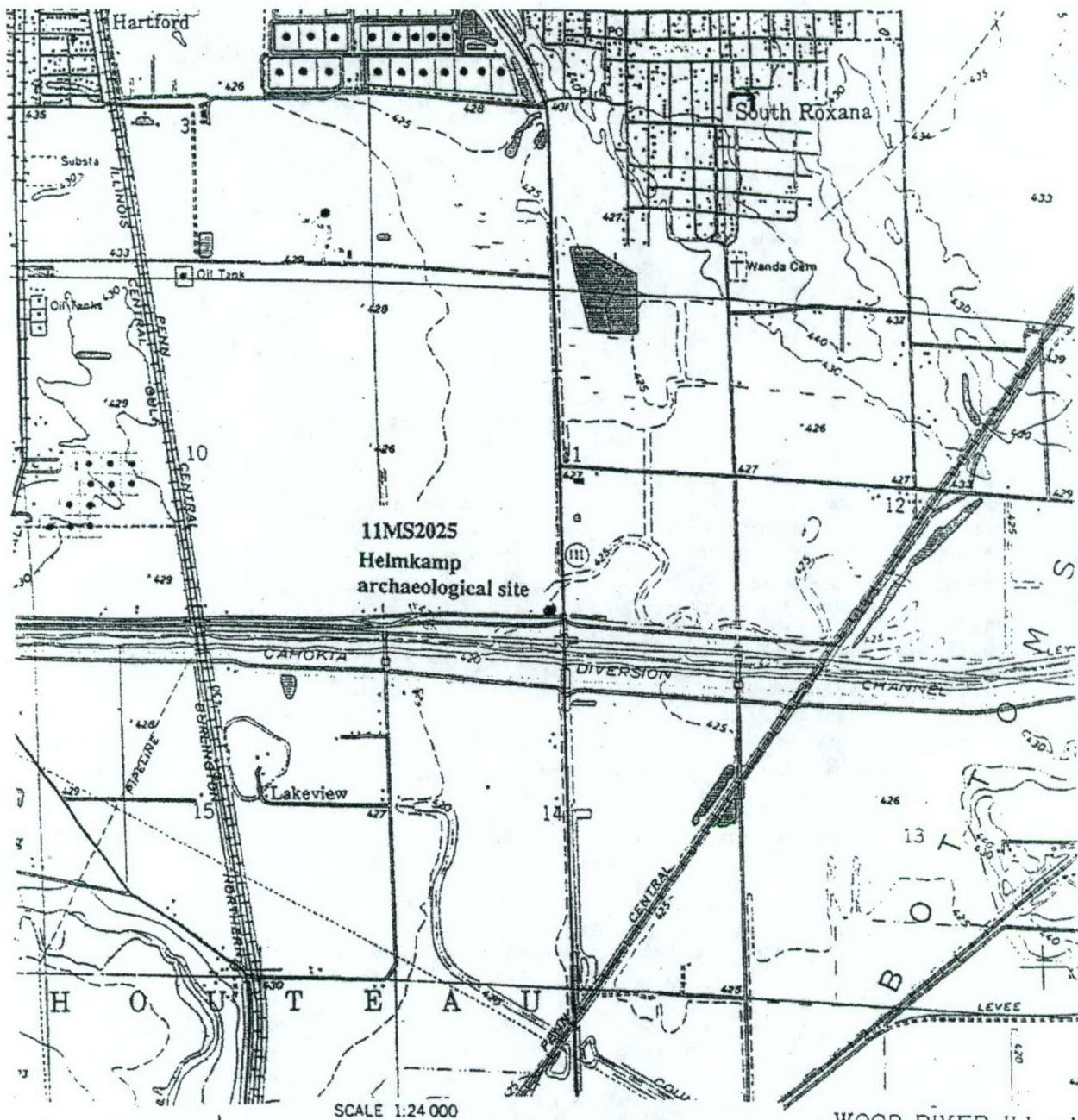
Description Flakes, broken point/knife (burlington), biface (burlington), burned sandstone, bone. Material on surface and below plowzone. Extensive disturbance by crayfish borrows. Some tempered pottery.

TEMPORAL AFFILIATION (check all that apply)

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Prehistoric Unknown | <input checked="" type="checkbox"/> Late Archaic | <input type="checkbox"/> Mississippian | <input type="checkbox"/> Colonial (1673-1780) |
| <input type="checkbox"/> Paleoindian | <input checked="" type="checkbox"/> Woodland | <input type="checkbox"/> Upper Mississippian | <input type="checkbox"/> Pioneer (1781-1840) |
| <input type="checkbox"/> Archaic | <input type="checkbox"/> Early Woodland | <input type="checkbox"/> Protohistoric | <input type="checkbox"/> Frontier (1841-1870) |
| <input type="checkbox"/> Early Archaic | <input type="checkbox"/> Middle Woodland | <input type="checkbox"/> Historic Native American | <input type="checkbox"/> Early Industrial (1871-1900) |
| <input type="checkbox"/> Middle Archaic | <input type="checkbox"/> Late Woodland | <input type="checkbox"/> Historic (generic) | <input type="checkbox"/> Urban Industrial (1901-1945) |
| | | | <input type="checkbox"/> Post-War (1946-present) |

Description Identified as Late Archaic by Brad Koldehoff and James Duncan based on flaking of two biface fragments.

Surveyor Suzanne Harris	Institution COE	Survey Date 4/11/02	Curation Facility IISMT
Site Report By Suzanne Harris	Institution COE	Date 5/22/02	
IHPA Log No. 980625001PMS	IHPA 1st Sur Doc No.		
Compliance Status	<input type="checkbox"/> NRHP Listing		



WOOD RIVER, ILL.—
SZ/4 ALTON 15' QUADRANGLE
38090-G1-TF-024

1955

PHOTOREVISED 1968 AND 1977
DMA 29611 SE-SERIES V863

Portion of U. S. G. S. Wood River, ILL. - MO. 7.5" quadrangle, showing location of
Helmkamp archaeological site at proposed location of Grassy Lake Pump Station,
U. S. Army Corps of Engineers, St. Louis District.

Table 1
 GRASSY LAKE PUMP
 HELMKAMP ARCHAEOLOGICAL SITE 11MS2025
 ARTIFACT TABLE

ARTIFACT TYPE							Total
	Trench 3	Trench 2, Feature 115 - 122 cm BS	Trench 2, Feature, 105 - 120 cm BS	Trench 2, Feature, 105 cm BS	Trench 2, 79 cm BS	Trench 2, 53 cm BS	
CERAMICS							
Sand tempered sherd	1						10
LITHICS							
Core debitage							
Working core		1	1				2
Flake debitage							
Primary flake	6						6
Tertiary flake	13		1		3		17
Thinning flake		2			2		4
Edge rejuvenation flake	2				3		5
Flake fragment	6	1	1		4		12
Microdebitage					24		24
Shatter	6		1		1		8
Flake tools							
Tertiary flake, utilized	1		1				2
Flake fragment, utilized	2						2
Bifacial tools							
Projectile point/knife	1						1
Biface						1	1
Perforator	1						1
Other stone							
Limestone, unmodified	1	1					2
Sandstone, ground						10	10
Quartzite	1						1
TOTAL	42	4	2	3	1	11	11
BIOTIC							
Bone fragments					9	5	5
Charcoal					5*	p	p
						1*	3
							8

* = partially carbonized

p = present, too fragmentary to count

BEAR CREEK ARCHEOLOGY, INC.

ARCHEOLOGICAL AND HISTORICAL CONSULTANTS

DAVID G. STANLEY, DIRECTOR

May 27, 2004

Suzanne Harris
U.S. Army Engineer District, St. Louis
1222 Spruce Street
St. Louis, Missouri 63101-2833

Re: Contract No. W912P9-04-P-1048; Phase II Eligibility Testing at the Helmkamp Site (11MS2025), Proposed Grassy Lake Pump Station and Associated Ditch Work, Wood River Drainage and Levee District, Madison County, Illinois; BCA #1199

Dear Ms. Harris:

This is a preliminary report of findings from the archeological testing project at the Helmkamp site (11MS2025). Also included are some suggestions for recommendations to mitigate the adverse effects of the proposed pump station on this site.

The BCA investigations, which spanned the period of May 17-25, 2004, were hampered by heavy rains during the first two days and subsequently by a high water table. The rain resulted in the cancellation of planned excavation by a backhoe, and the high water table prohibited hand excavation deeper than 110 cm below surface. Nonetheless, we were able to recover enough diagnostic artifacts to identify three and perhaps four cultural components, and we were able to trace the horizontal limits of the site. Additionally, the geoarcheological analysis is adequate to place the cultural components in proper stratigraphic context.

The site surface scatter covers most of a natural levee along the eastern side of the modern drainage ditch. Two episodes of systematic surface collecting at approximately 2-3 m (6.6-9.8 ft.) intervals were conducted to define the surface extent of the site. The first was performed at the beginning of the testing on the heavily weathered surface of the high visibility (ca. 90%) fallow agricultural field. A second round of surface collecting was preformed towards the end of testing after a period of heavy rainfall. Additional surface finds were identified during the course of testing as personnel conducted the testing. All surface finds were pin-flagged, mapped by a total station, and placed in individual collection bags. The total station was also used to establish three permanent datums, record elevations for a contour map, and record the locations of all subsurface tests. The datum locations were recorded using global positioning equipment so the investigation results may be referenced to Corps of Engineers (COE) plans.

David W. Benn
Research Coordinator
307 22nd NE
Cedar Rapids, IA 52402
Office/FAX: (319) 364-1650

Home Office
P.O. Box 347
24091 Yellow Ave.
Cresco, IA 52136
(563) 547-4545
FAX: (563) 547-5403

A total of 13 one meter test units and 52 bucket auger probes were excavated within the project area (Figure 1). Bucket auger holes were dug at 15 m (49.2 ft.) intervals across the entire project area to depths of 130-210 cm, i.e., through the 2ABb horizon (see attached soil profile), and some reached the 3Bw horizon (see attached soil profile). No artifacts were found below the BCb horizon. Test units were placed on a longitudinal transect across the natural levee. Nearly all of the test units reached 110 cm depth and in every case were extended through the BCb horizon where the deepest cultural component occurred. The 2ABb horizon could not be extensively investigated by hand excavation due to the high water table, and it is not clear if any cultural material occurs in this horizon (none was found in bucket augers).

The site boundaries indicated on Figure 1 represents the maximum extent of the Helmkamp site based on our testing coupled with the results of your initial investigation. This boundary is a compilation of the projected horizontal extent of the four components, most of which are not present on the surface. Individual components do not necessarily cover the entire mapped extent of the site, although the uppermost component dating to the Late Woodland period likely does (this component is missing on the southern end of the site because of previous stripping of the surface soil). As indicated on Figure 1, the pre-Woodland components appear generally confined to the southern end of the site area.

Three and probably four cultural components (habitats) were identified by diagnostic artifacts and stratigraphic context. The youngest component lies within the AB and B1 horizons of the topsoil. Its evidence includes an extremely light surface scatter of lithic debitage extending northward across the project area, a pit feature in Test Unit 3, and a fragmentary Late Woodland pottery sherd from the feature fill. A post-A.D. 700 date is indicated for this component. A second component appears to be widely diffused within the B1-B2t soil horizons in the southwestern quadrant of the project area, although too little diagnostic material (pottery) was recovered to present a clear indication of its horizontal limits within the site boundaries. Evidence for the second component includes sandy pottery sherds, one of which is Marion Thick, and one contracting stem projectile point (Gary) indicating this habitation belonged to the Early Woodland period. The (probable) third component rests either just above or within the B3t (Ab) horizon in the southwestern quadrant of the project area. The only diagnostic artifact (stemmed point) from the third component resembles Titterington phase projectile styles of the Late Archaic period. Another broken stemmed point may also belong to some Late Archaic component. The fourth component rests at roughly 85-100+ cm depth in the southwestern corner of the project area. This component turned up in the B1b horizon in Test Units 1, 9, and 11. Faunal and floral remains appear to be preserved as concentrations (pits?) within the fourth component, which may belong to the early Late Archaic period

Preservation of the four cultural components varies from "good to poor." The Late Woodland component, which contains relatively little material in limited distribution at the center of the natural levee, has been extensively mixed by plowing. Some lithic artifacts and one pit feature (#2) were found below the plowzone, but faunal preservation is very poor in the leached topsoil. A majority of this component appears to have been

destroyed by plowing. The Early Woodland component consists of an extremely thin scatter that cannot be separated from the other components, and part of this component has been damaged by plowing at the southern end of the natural levee. Preservation of fauna and flora, not to mention features, seems unlikely in the leached horizons of the topsoil, therefore the condition of the Early Woodland component is judged to be "poor." Component three, the Late Archaic habitation, appears to be relatively intact, because almost all of it is buried below the plowzone in the southwestern corner of the project area. There are diagnostic artifacts and the potential for features in this third component, however it may mixed with the Woodland components. The fourth component is isolated well below the other three and probably contains intact features with floral and faunal remains. Feature 1, which was identified by the initial investigation, and Feature 3, a possible hearth found during testing, are likely associated with this component. Two negative aspects of the Late Archaic components are that they lie within a heavily leached Bt horizon, where organic stains will not be obvious, and the question of how much of this component has been damaged by construction of the adjacent gravel road and drainage ditch. Only the two Late Archaic components are judged to have integrity and research potential necessary for a finding of "potential significance" with regard to Criterion D of the National Register of Historic Places. The Late and Early Woodland components are judged to be ineligible.

Here are some suggestions for mitigation of adverse impacts to the Late Archaic component(s). The upper Archaic component (Ab horizon?) may be mixed with Woodland material, and more extensive excavation could reveal that it does not have enough integrity separate from the Woodland material to warrant complete excavation. The lower Late Archaic component is intact and warrants extensive research, although it may extend beneath the gravel road. Both Archaic components are concentrated in the southwestern corner of the project area (encompassing Test Units 1, 9, and 11; see Figure 1). If the pump station could be moved eastward or westward so that it did not impact the Archaic component boundary, this could qualify as "avoidance." The proposed ditch excavation north of the pump station will not impact significant archeological deposits.

I am available after June 6 to discuss these preliminary results and to settle on future courses of action for this site.

Sincerely yours,

David Benn
by Patricia Holmson
David W. Benn

DB/ph

Soil Profile: 11MS2025 Helmkamp Site

Location: test units 3 and 6

Geology: alluvial fan/low terrace (Missouri River and Cahokia Creek)

Parent Material: alluvium

Vegetation: disced field

Physiography: low natural levee of Missouri/Mississippi River meander

Relief: 0-2%

Date: 5-21-04

By: D. Benn

Discussion: Soil horizons identified from all test unit profiles above 110 cm and from 1" hand probes below 110 cm; some upper horizons are missing from profiles at the southern end of the site due to removal of topsoil at a previous time.

Depth (cm)	Soil Horizon	Description
0-22	Ap	Dark grayish brown (10YR 3/3) silt loam, massive, common rootlets, abrupt boundary.
24-35	AB	Dark grayish brown (2.5Y 4/2) with small faint krotovina mottles, silt loam, weak very fine subangular blocky breaking to coarse granular, some fine rootlets, gradual wavy boundary.
35-64	B1wg	Dark grayish brown (2.5Y 4/2) silty clay loam, moderate fine subangular blocky, friable, few fine iron concretions, smooth clear boundary.
64-87	B2tg	Grayish brown (2.5Y 5/2) with pale medium yellowish mottling, medium iron stains, moderate medium subangular blocky, friable, thin slightly darker gray clay coats, occasional large krotovina, smooth clear boundary.
87-95	B3tg (Ab)	Grayish brown (2.5Y 5/2) with coarse dark gray (2.5Y 4/1) mottles and light olive brown (2.5Y 5/6) iron oxide stains, silty clay loam, moderate medium-subangular blocky, firm, dark gray (2.5Y 4/1) clay coats, occasional crayfish burrows, gradual smooth boundary.
95-115	Btgb	Dark gray to dark grayish brown (2.5Y 4/1-2.5Y 4/2) with very coarse pale iron mottles, silty clay loam, moderate coarse subangular blocky and weakly columnar, firm, common manganese and iron oxide concretions, continuous dark gray (2.5Y 4/1) clay coats, boundary not observable.
(water table) 115~130	BCgb	Dark gray (2.5Y 4/1) silty clay loam with coarse pale iron oxide mottles, weak coarse subangular blocky and weakly columnar, firm and sticky, common iron and manganese oxide concretions.
130~145	2Abgb	Dark gray to grayish brown (2.5Y 4/1-2.5Y 5/2) silt loam, moderate coarse granular grading to fine subangular blocky below, common iron oxide masses and nodules.
145~170	2Bwgb	Dark gray (2.5Y 4/1) coarse mottled sandy silt loam with narrow lens of medium sand, weak medium subangular blocky, firm and sticky, common iron and manganese oxide masses.
170~180	3AB(?)gb	Dark gray (2.5Y 4/1) finely mottled silty clay loam, moderate fine subangular blocky, firm and sticky, common iron and manganese oxide masses.
180~200	3Bwgb	Dark gray and grayish brown (2.5Y 4/1-2.5Y 5/2) silty clay loam, weak-moderate medium subangular blocky, firm and sticky, common iron and manganese oxide masses.
200-210+	4(?)Bwgb	Dark gray and grayish brown (2.5Y 4/1-2.5Y 5/2) silty clay loam, weak-moderate fine subangular blocky, very sticky, some iron oxide mottles(?).
+210	4BCgb/Cgb	Too wet and sticky to analyze. End.

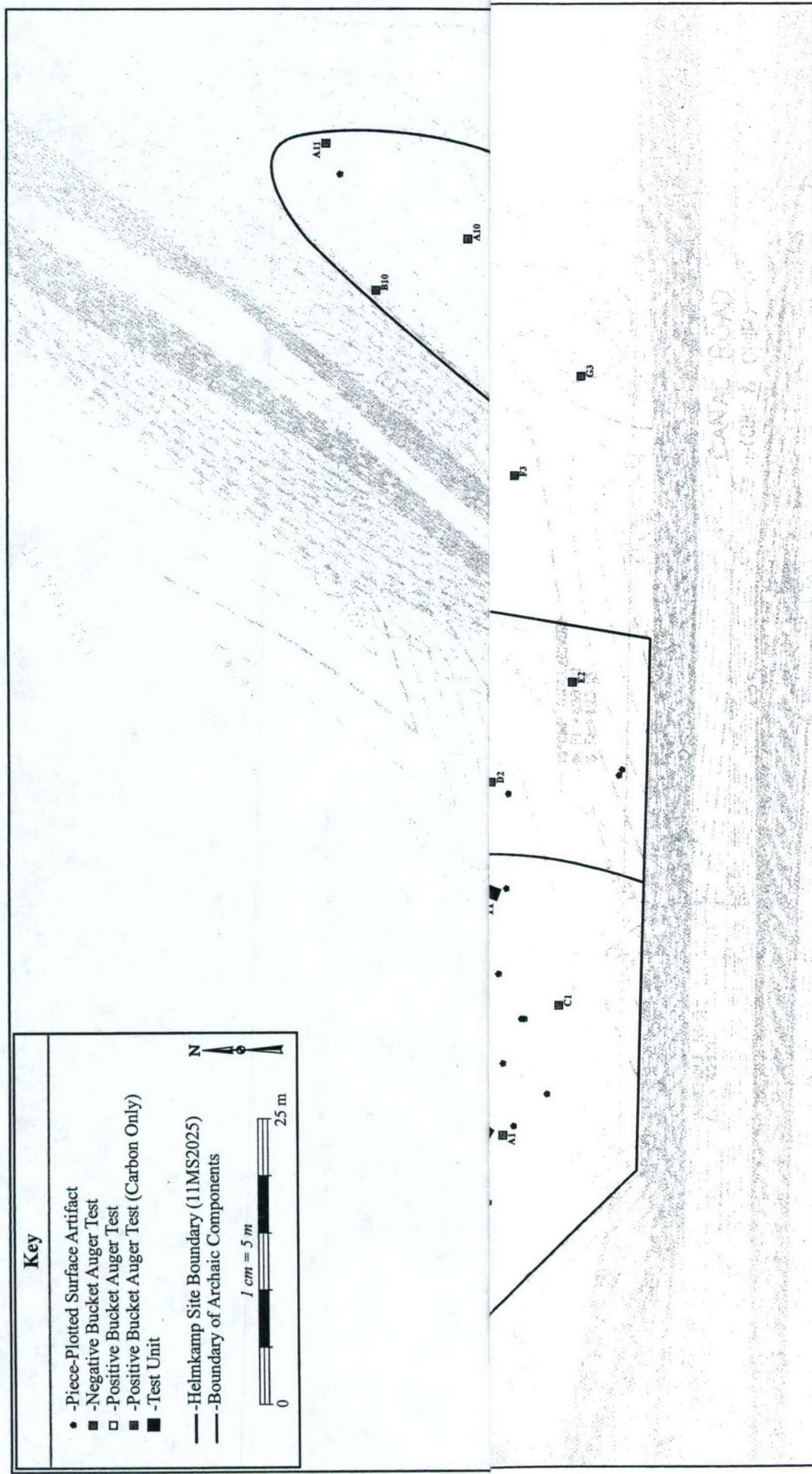


Figure 1. Scale map of Phase II testing at the Helmkamp Site (11MS2025).

BEAR CREEK ARCHEOLOGY, INC.

ARCHEOLOGICAL AND HISTORICAL CONSULTANTS

DAVID G. STANLEY, DIRECTOR

June 29, 2004

John G. Helmkamp, Jr.
4900 Manitou Trail
Godfrey, Illinois 62035

Re: Donation of Artifacts from the Helmkamp Site

Dear Mr. Helmkamp:

Enclosed please find two copies of the donation agreement for artifacts from the Helmkamp site (11MS2025), the prehistoric site on your property tested by personnel from our firm on behalf of the St. Louis Corps of Engineers. The artifacts will be permanently stored for the Corps at the Illinois State Museum repository in Springfield. Please sign both copies and retain one for your records. The other copy may be returned to our office in the enclosed self-addressed, stamped envelope.

I would like to express my appreciation to you for allowing us access to your property to test the Helmkamp site (by the way, it is a fairly common practice in archeology to name sites after landowners; this particular site was named by Corps personnel after the initial investigation). I hope you are having a profitable summer, and if you have any questions, please do not hesitate to contact our office in Cresco.

Sincerely,



Joe B. Thompson
Project Archeologist

David W. Benn
Research Coordinator
307 22nd NE
Cedar Rapids, IA 52402
Office/FAX: (319) 364-1650

 Home Office
P.O. Box 347
24091 Yellow Ave.
Cresco, IA 52136
(563) 547-4545
FAX: (563) 547-5403

Donation Agreement

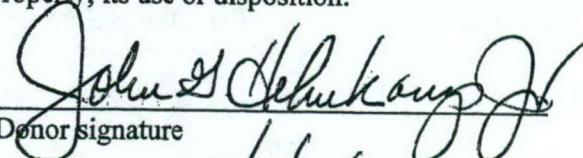
Donor: John G. Helmkamp, Jr.

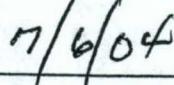
Date: 6/29/2004

Address: 4900 Manitou Trail, Godfrey, IL 62035

Phone: (618) 467-0854

I hereby irrevocably and unconditionally give, transfer, assign, and deliver to Illinois State Museum, Springfield, Illinois, the property hereafter described from the Helmkamp site (11MS2025); and I waive all rights in or to said property, its use or disposition.



Donor signature


Date

Description of Objects:

St. Louis Corps Phase I Survey

- 75+ flakes, shattered chert pieces
- 13 fire-cracked/ground rocks
- 47 mostly burned bone bits
- 8 charcoal fragments
- 7 chipped stone tools (bifaces, flake-tools)
- 11 pottery sherds
- 2 cores

Bear Creek Archeology Phase II Testing

- 400+ flakes, shattered chert pieces
- 29 fire-cracked rock
- 100+unidentified burned bone bits
- 2 charcoal fragments
- 42 chipped stone tools (bifaces, flake-tools)
- 1 cobble hammer/grinder/bipolar hammer
- 5 pottery sherds

BEAR CREEK ARCHEOLOGY, INC.
ARCHEOLOGICAL AND HISTORICAL CONSULTANTS

DAVID G. STANLEY, DIRECTOR

September 1, 2004

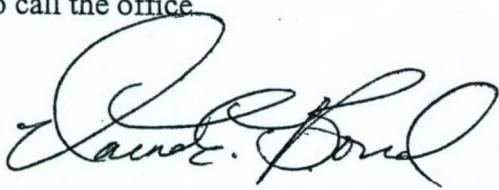
Terrance J. Martin, Ph.D.
Research & Collections Center
1011 East Ash Street
Springfield, IL 62703

Re: 11MS2025; BCA Project #1199

Dear Dr. Martin:

Enclosed please find the field notes, catalog sheets, and copies of the digital photographs from BCA project #1199. Also included are two copies of the draft report entitled, *Phase II Archeological Testing of the Helmkamp Site (11MS2025) in Support of the Proposed Grassy Lake Pump Station and Associated Ditch Work Wood River Drainage and Levee District Madison County, Illinois*. Two copies of the final report will be sent upon its completion. Mr. Helmkamp has donated the artifacts to the museum, and a signed donation agreement is included with the paperwork. Please fax us with confirmation that you have received everything you require for curation. If you have any questions, please feel free to call the office.

Sincerely,



Daina Bond
Lab Director

db
enclosures

David W. Benn
Research Coordinator
307 22nd NE
Cedar Rapids, IA 52402
Office/FAX: (319) 364-1650

Home Office
P.O. Box 347
24091 Yellow Ave.
Cresco, IA 52136
(563) 547-4545
FAX: (563) 547-5403

RESEARCH AND COLLECTIONS CENTER
1011 East Ash Street
Springfield, IL 62703-3535
Phone: (217) 785-0037
Fax: (217) 785-2857

ILLINOIS STATE MUSEUM
Spring and Edwards Streets
Springfield, IL 62706-5000
Phone: (217) 782-7386
Fax: (217) 782-1254

DICKSON MOUNDS MUSEUM
10956 N. Dickson Mounds Road
Lewiston, IL 61542-9733
Phone: (309) 547-3721
Fax: (309) 547-3189

ILLINOIS ART GALLERY
James R. Thompson Center, Suite 2-100
100 West Randolph Street
Chicago, IL 60601-3218
Phone: (312) 814-5322
Fax: (312) 814-3471

SOUTHERN ILLINOIS ARTISANS SHOP
AND VISITOR'S CENTER
14967 Gun Creek Trail
Whittington, IL 62897-1000
Phone: (618) 629-2220
Fax: (618) 629-2704

LOCKPORT ART GALLERY
Norton Building, First Floor
210 West 10th Street
Lockport, IL 60441-2878
Phone: (815) 838-7400
Fax: (815) 838-7448

RECEIPT

The object(s) listed below are received subject to the CONDITIONS printed on the reverse.

For Internal Use
Route to:

Section:

Received From: Bear Creek Archaeology, Inc.

Address: P. O. Box 347 - 2409 Yellow Ave.

City: Cresco State: IA Zipcode: 52136

Phone #: (563) 547-4545 Fax #: (563) 547-5403

Submitted for Identification Gift Other (specify): Property Transfer

Object(s) left for identification should be reclaimed by depositor within 30 days, unless otherwise mutually agreed.

See CONDITIONS on reverse.

Description of Object(s) (include identifying numbers, if any, condition, collection information, and other notes; if an addendum sheet is needed, please attach a copy of it to all copies of this form):

We have received, on September 7, 2004, 1 large bag of material from 11MS2025 - Project #1199, field notes, catalog sheets, digital photographs, donation agreement from Mr. Helmkamp and 2 copies of the report. This fulfills all requirements for curation at the Illinois State Museum.

DEPOSITOR

I have read and agree to the CONDITIONS listed on the reverse, and certify that I have full authority to agree thereto.

N.A.

Date

Signature

Received for the ILLINOIS STATE MUSEUM by:

Denise J. Martin CURATOR OF ANTHROPOLOGY Date 9/9/04

Signature and Title

I acknowledge the return of the above described object(s)

Date

Signature of Depositor

If the object is retained for the collections at the Musuem, provide the assigned accession number.

Accession #: 2004-0089 F

Section: Anthropology

Ultimate Disposition: Illinois State Museum Research & Collections Center

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE J	PAGE OF PAGES 1 4
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AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE 22-Oct-2004	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
SUED BY TRACTING DIVISION ARMY ENGR DIST ST LOUIS 22 SPRUCE ST RM 4.207 LOUIS MO 63103-2833	CODE W912P9	7. ADMINISTERED BY (If other than item 6)	CODE

See Item 6

NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) EAR CREEK ARCHEOLOGY INC AVID G STANLEY 4091 YELLOW AVENUE RESCO IA 52136-0347	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
	X 10A. MOD. OF CONTRACT/ORDER NO. W912P9-04-P-1048
DE OF2R0	X 10B. DATED (SEE ITEM 13) 28-Apr-2004
FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer is extended, is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:

- (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
AR 52.212.4(c)

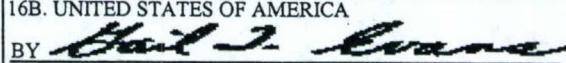
OTHER (Specify type of modification and authority)

IMPORTANT: Contractor is not, is required to sign this document and return 1 copies to the issuing office.

DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose for this Supplemental Agreement is to implement the Scope of Work for Phase II Grassy Lake West Pump. The funding amount increased by \$15,822.12 from \$19,867.76 to \$35,689.88.

As provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) GAIL T. EVANS / CONTRACTING OFFICER TEL: 314-331-8522 EMAIL: Gail.T.Evans@mvs02.usace.army.mil		
CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED 30-105-04	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 22-Oct-2004

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The contract completion date is changed to April 29, 2005. Listed below are the following items added to the Scope of work to implement Phase II Investigation for Grassy Lake Pump Station Contract:

CONTRACT W912P9-04-P-1048 AMENDMENTS
Phase II Investigation at the West Helmkamp Site (11MS----),
Proposed West Grassy Lake Pump Station and Associated Ditch Work,
Wood River Drainage and Levee District,
Madison County, Illinois

1. **Statement of Work.** Work to be accomplished at West Helmkamp archaeological site at proposed Grassy Lake West Pump Station.
 - 1.1 Conduct Phase II eligibility determination at West Helmkamp archaeological site.
 - 1.2 Major constituents of the order include the following. (1) Phase II subsurface testing, which may include controlled surface collection, limited test excavation, backhoe trenching, Giddings coring and/or auguring to determine whether significant intact archaeological deposits exist below the plow zone. The number of deposits/surfaces and depths should be determined to the extent practical. (2) Investigate whether site integrity exists. (3) Prepare a quality technical report on the results of the investigations that meets this Scope of Work and the Illinois State Historic Preservation Office Guidelines for Archaeological Survey and Reporting Requirements. (4) Provide recommendations for avoidance or Phase III data recovery of the site if it is recommended as eligible.
2. **Project Description.** Project is located just west of existing ditch and original proposed pump station location. Pump and inlet structure with ditch will be moved; other project elements will remain the same. The area requiring investigation will be approximately 1.2 acres. The proposed project area is bounded by the existing diagonal ditch (northeast), the CCDC outer road (south), and the western boundary, which will be staked.
3. **Background.** After significant archaeological components at site 11MS2025 were encountered during investigations conducted under the original contract, District archaeologists investigated an alternative pump station location in the field immediately to the west. They located a thin scatter of prehistoric material (flakes, one flake tool with perforator) covering approximately 1.2 acres. In comparison to the Helmkamp site to the east, there was a smaller quantity of cultural material on the surface and no diagnostic artifacts. The scatter was located primarily south of an east-west field ditch, suggesting that the material might be eroding from below the surface. The western boundary of the scatter was not determined since it lay beyond the project boundary. A farm was located just northwest of the project area as shown on a 1950s CCDC map. Minor farm debris (e.g., metal, glass, burned limestone), probably deposited as trash, was noted near the diagonal ditch. The prehistoric site undoubtedly has been disturbed by the farm activities, including excavation of the east-west field ditch. The project area is an agricultural field that was planted in beans (about one foot high) at the time of the survey.
- 4.2. **Fieldwork.** Work stages and alternative fieldwork strategies shall be as in the original contract. Geomorphic coring and/or auguring and /or backhoeing is encouraged, if permitted by the depth of the water table. Investigations should extend at least three feet (1 m) below the ground surface, since cultural material was found to this depth at site 11MS2025.
- 7.4. **Final Report.** Once the extent of field results are known, the Government and the Contractor shall decide whether to combine the draft reports for investigations at the two locations into a single final report or to produce two final reports.

All other contract stipulations shall be in force.

SUPPLIES OR SERVICES AND PRICES

CLIN 0001

The unit price amount has increased by \$15,822.12 from \$19,867.76 to \$35,689.88.
The total cost of this line item has increased by \$15,822.12 from \$19,867.76 to \$35,689.88.

ACCOUNTING AND APPROPRIATION

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by \$15,822.12 from \$19,867.76 to \$35,689.88.

CLIN 0001:

AA: 96X31220000 082413 2510JGD377020180 NA 96233 was increased by \$15,822.12 from \$19,867.76 to \$35,689.88

DELIVERIES AND PERFORMANCE

The following Delivery Schedule for CLIN 0001 has been added:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
29-APR-2005	1	CONTRACTING DIVISION USARMY ENGR DIST ST LOUIS 1222 SPRUCE ST RM 4.207 ST LOUIS MO 63103-2833 314-331-8500 FOB: Destination	W912P9

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

I. CONTRACT ID CODE

J

PAGE OF PAGES

1

2

2. AMENDMENT/MODIFICATION NO. P00003	3. EFFECTIVE DATE 29-Dec-2004	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
6. ISSUED BY CONTRACTING DIVISION USARMY ENGR DIST ST LOUIS 1222 SPRUCE ST RM 4207 ST LOUIS MO 63103-2833	CODE W912P9	7. ADMINISTERED BY (If other than item 6) See Item 6	CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code). BEAR CREEK ARCHEOLOGY INC DAVID G STANLEY 24091 YELLOW AVENUE CRESCO IA 52136-0347	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
	X 10A. MOD. OF CONTRACT/ORDER NO. W912P9-04-P-1048
	X 10B. DATED (SEE ITEM 13) 28-Apr-2004

CODE OF2R0	FACILITY CODE
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11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer is extended, is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

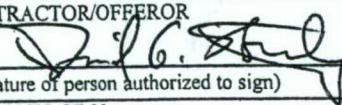
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR 52.212.4(C)
D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose for this Supplemental Agreement is to implement the Radiocarbon (C-14) dating for the Grassy Lake Pump Station investigation. The funding amount is increased by \$280.00 from \$35,689.88 to \$35,969.88.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) David G. Stanley, President	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) ARCHIE C. RINGGENBERG / CONTRACTING OFFICER TEL: 314-331-8505 EMAIL: Archie.C.Ringgenberg@mvs02.usace.army.mil		
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 1/7/05	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 29-Dec-2004

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE**SUMMARY OF CHANGES****SECTION SF 30 - BLOCK 14 CONTINUATION PAGE**

The contractor will conduct radiocarbon dating on one wood charcoal sample from Giddings core #2 at the Helmkamp archaeological site (11MS2025). The sample will provide the oldest possible date for human occupation at the archaeological site." The sample must be organic (plant or animal).

C-14 Radiocarbon dating \$ 280.00

SECTION SF 1449 - CONTINUATION SHEET**SOLICITATION/CONTRACT FORM**

The total cost of this contract was increased by \$280.00 from \$35,689.88 to \$35,969.88.

SUPPLIES OR SERVICES AND PRICES**CLIN 0001**

The unit price amount has increased by \$280.00 from \$35,689.88 to \$35,969.88.

The total cost of this line item has increased by \$280.00 from \$35,689.88 to \$35,969.88.

ACCOUNTING AND APPROPRIATION**Summary for the Payment Office**

As a result of this modification, the total funded amount for this document was increased by \$280.00 from \$35,689.88 to \$35,969.88.

CLIN 0001:

AA: 96X31220000 082413 2510JGD377020180 NA 96233 was increased by \$280.00 from
\$35,689.88 to \$35,969.88

(End of Summary of Changes)



DEPARTMENT OF THE ARMY
ST. LOUIS DISTRICT, CORPS OF ENGINEERS
1222 SPRUCE STREET
ST. LOUIS, MISSOURI 63103-2833

REPLY TO
ATTENTION OF:

ED-2
rec'd
3/9/05

RECEIVED

FEB 15 2005
027030304
Preservation Services

February 15, 2005

Engineering Division
Curation and Archives
Analysis Branch

IHPA REVIEW

H/A _____
AC _____
AR _____
File _____

Ms. Anne E. Haaker
Deputy State Historic Preservation Officer
Illinois Historic Preservation Agency
1 Old State Capitol Plaza
Springfield, Illinois 62701-1507

Dear Ms. Haaker:

Pursuant to the National Historic Preservation Act, Section 106 (as amended), and its implementing regulation 36 CFR 800, the St. Louis District, U. S. Army Corps of Engineers, hereby provides the Illinois State Historic Preservation Officer (ISHPO) with two copies of the following revised draft report dated January 2005, for review and comment: "Phase II Archeological Testing of the Helmkamp site (11MS2025) in Support of the Proposed Grassy Lake Pump Station and Associated Ditch Work Wood River Drainage and Levee District Madison County, Illinois," by Joe B. Thompson and David W. Benn of Bear Creek Archeology. This is a revision of the June 2004 report with the same name and authors that was sent to you on August 4, 2004. The revised report includes recent investigations at the portion of the site west of the field drainage ditch. The total size of the Helmkamp site is 0.76 hectares (1.8 acres).

As background, the Phase I investigation at the proposed pump station location, conducted by Dr. Michael Kolb, Strata Morph Geoexploration and Ms. Suzanne E. Harris of my staff in April 2002 identified the Helmkamp prehistoric archaeological site (11MS2025). The Phase I report entitled "Geomorphological and Archaeological Investigations at the Proposed Grassy Lake Pump Station, Madison County, Illinois," by Dr. Michael Kolb and Ms. Suzanne E. Harris was sent to your office on February 25, 2004 (IHPA LOG #98062\$001PMS). Meanwhile, the District initiated a contract for Phase II eligibility testing. The scope of work for the Phase II investigations was transmitted electronically to your office on February 23, 2004, and Mr. Joseph Phillippe of your staff indicated he had no comments on the scope in a telephone conversation with Ms. Harris on March 3, 2004. Bear Creek Archeology conducted the testing in May 2004 and identified four cultural components: Late Woodland Patrick phase, Early Woodland Carr Creek phase, probable middle/late late Archaic (Titterington to Prairie Lake phases), and probable early Late Archaic (Falling Springs phase). Following recommendations in the contractor's draft report, the District determined that the lower two Archaic components contributed to the site's eligibility for nomination to the National Register of Historic Places, but the upper two Woodland components did not contribute to the site's

0625001

eligibility due to disturbance. Although we received no written response to our letter of August 4, 2004, coordinating the earlier draft, informal discussions with your staff indicated concern about impacts to the site as originally defined (east of drainage ditch).

As stated in our August 2004 coordination letter to your office, the District had initiated investigation of the area west of the Helmkamp site, as then defined, to determine whether this might be a better location for the pump station. Ms. Harris and Ms. Lara Anderson of my staff conducted a Phase I survey on July 14, 2004, and located a thin scatter of prehistoric lithic material. The District then amended our contract with Bear Creek Archeology to include Phase II testing of the western area. Ms. Harris discussed these investigations with Mr. Phillippe in a telephone conversation on October 7, 2004. The contractor tested the western site area during the week of November 19, 2004. They conducted another surface collection and excavated seven one-meter-square test units to depths of 70–130 cm below surface. They also extracted two mechanical cores from the eastern Helmkamp site and the Grassy Lake floodplain west of the site. As discussed on pages 28–29 of the draft report, testing the west side yielded relatively little information. Lithic material was less dense than at the main (eastern) side and most occurred between 30 and 50 cm below surface. About 30 cm of topsoil apparently had been removed, probably as the result of ditch excavation, land leveling, and cultivation. No diagnostic artifacts or features were encountered. Comparison of the soils on the west side with the east side suggests that the western material dates to the Late Archaic period.

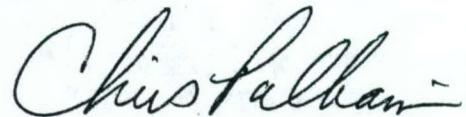
Following the recommendations in the draft report (pages 32–34), the District has determined that only the two Late Archaic components on the eastern side have the integrity and research potential to contribute to the site's eligibility, and the other components (Archaic component on the west side and the two Woodland components on the east side) do not contribute to the site's eligibility. Therefore the District has determined that constructing the pump station on the disturbed west portion of the Helmkamp site will not adversely affect significant cultural properties. At present we plan to build the pump station on the west side. However, if the District decides in the future that we cannot build the pump station on the western side and must use the east side, we will coordinate these activities with your office and conduct appropriate mitigation on contributing components of the Helmkamp site.

The St. Louis District requests your concurrence with our determination that constructing the pump station on the west portion of the Helmkamp site will not adversely affect significant cultural properties. Any comments should be sent to me at the following address.

U.S. Army Corps of Engineers
St. Louis District
ATTN: CEMVS-ED-Z (Pulliam)
1222 Spruce Street
St. Louis, Missouri 63103-2833

If you have any questions about this issue, please contact Ms. Harris at (314) 331-8467 or
suzanne.e.harris@mvs02.usace.army.mil.

Sincerely,



Christopher B. Pulliam.
Acting Chief, Curation and Archives
Analysis Branch

Enclosure

CONCUR



State Historic Preservation Officer

Date Feb. 3, 2005 OP

probably March 3, 2005 - S 26

APPENDIX B
Representative Soil Profile



Representative Soil Profile: 11MS2025, Helmkamp Site

Location: test units 3 and 6, GP2

Geology: Alluvial Fan/Low Terrace (Missouri River Fan and Cahokia Creek alluvium)

Parent Material: alluvium

Vegetation: disked field

Physiography: low natural levee of Missouri/Mississippi River meander

Relief: 0-2%

Date: 5-21-04, 12-1-04

By: D.Benn

Discussion: Soil horizons identified from profiles of all test units as deep as 110 cm and from Gidding Probe 2 below 110 cm; some upper horizons are missing from profiles at the southern end of the site due to removal of topsoil (for levee construction?) during the Historic period.

<u>Depth (cm)</u>	<u>Horizon</u>	<u>Description</u>
(test unit profiles)		Middle Holocene Terrace
0~22	Ap	dark grayish brown (10YR 3/3) silt loam, massive, common rootlets, abrupt boundary.
24-35	AB	dark grayish brown (7.5Y 4/2) with small faint krotovina mottles, silt loam, weak very fine subangular blocky breaking to coarse granular, some fine rootlets, non-effervescent to bottom of profile, gradual wavy boundary.
35-64	B1wg	dark grayish brown (7.5Y 4/2) silty clay loam, moderate fine subangular blocky, friable, few fine iron concretions, smooth clear boundary.
64-87	B2tg	grayish brown (2.5Y 5/2) with pale medium yellowish mottling and medium iron stains, moderate medium subangular blocky, friable, thin slightly darker gray clay coats, occasional large (rodent) krotovina, smooth clear boundary.
87-95	B3tg(Ab)	grayish brown (2.5Y 5/2) with coarse dark gray (2.5Y 4/1) mottles and light olive brown (2.5Y5/6) iron oxide stains, silty clay loam, moderate medium subangular blocky breaking to coarse granular, firm, dark gray (2.5Y 4/1) clay coats, occasional (crayfish) krotovina, gradual smooth boundary.
95-115	Btg	dark gray to dark grayish brown (2.5Y 4/1-2.5Y 4/2) with very coarse pale iron mottles, silty clay loam, moderate coarse subangular blocky and weakly columnar, firm, common manganese and iron oxide concretions, continuous dark gray (2.5Y 4/1) clay coats, boundary not observable.

<u>Depth (cm)</u>	<u>Horizon</u>	<u>Description</u>
(water table, one inch cores)		
115~130	BCg	dark gray (2.5Y 4/1) silty clay loam with coarse pale iron oxide mottles, weak coarse subangular blocky and weakly columnar?, firm and sticky, common iron and manganese oxide concretions.
130~145	ABgb	dark gray to grayish brown (2.5Y 4/1-2.5Y 5/2) silt loam, moderate coarse granular grading to weak fine subangular blocky below, common iron oxide masses and nodules.
145~170	Bwgb	dark gray (2.5Y 4/1) coarse mottled sandy silt loam with narrow lens of medium sand, weak medium subangular blocky, firm and sticky, common iron and manganese oxide masses.
170~180	2AB(?)gb	dark gray (2.5Y 4/1) finely mottled silty clay loam, moderate very fine-fine subangular blocky, firm and sticky, common iron and manganese oxide masses.
175-230	2Bwgb	dark gray and grayish-brown (2.5Y 4/1-2.5Y 5/2) silty clay loam, weak-moderate medium subangular blocky, firm and sticky, common iron and manganese oxide masses.
230~300	3Bwgb	Grayish-brown (2.5Y 5/2) silt, weak medium-coarse subangular blocky, sticky, coarse iron mottles and manganese masses, gradual boundary.
300-355	3Cgb	Light olive-brown (2.5Y 5/4) silt with olive-brown (2.5Y 4/3) iron mottles, weak medium subangular blocky to massive, clear boundary.
Wetland Sediments		
355-385	4Ab	Dark gray (5Y 4/1) silty fine sand, weak very fine subangular blocky, friable, burnt wood on top, gradual boundary.
385-510+	4Cb	Dark gray (5Y 4/1) silty sand to fine sand, massive, loose (wet), medium (channel) sand at base. End in watery sand.

Low Terrace Soil Profile
 (west of the Helmkamp site)

Location: GP1

Geology: Low Terrace (Missouri River Fan)

Parent Material: alluvium

Vegetation: disked field

Physiography: floodplain

Relief: 0-2%

Date: 12-1-04

By: D. Benn

Discussion: Giddings Probe 1 positioned 75 m (246.1 ft.) west of Helmkamp site at field road entrance.

Depth (cm)	Horizon	Description
Post-Settlement Alluvium		
0-28	Ap	Very dark grayish-brown (10YR 3/2) silt loam, massive and cloddy, common rootlets, abrupt wavy boundary.
28-55	C	Dark gray (10YR 4/1) silt loam, coarse granular, common rootlets, non-effervescent, abrupt boundary.
Late Holocene Alluvium		
55-85	Ab/ABb	Dark grayish-brown (10YR 4/2) silt, coarse granular to very fine subangular blocky, friable, few rootlets, non-effervescent to bottom of profile, gradual boundary.
85-130	Bwb	Dark grayish-brown to dark yellowish-brown (10YR 4/2-10YR 4/4) silty clay loam, moderate fine subangular blocky, friable, coarse iron masses, mottled below, abrupt boundary
130-150	2Ab	Grayish-brown (2.5Y 5/2) silt, granular to moderate very fine subangular blocky, friable (sticky), medium iron masses, clear boundary.
150-220	2Bwb	Grayish-brown (2.5Y 5/2) with light olive-brown (2.5Y 5/4) iron mottles, silty clay, moderate fine-medium subangular blocky, coarse iron mottles, gradual boundary.
220-265	2Cgb	Very dark grayish-brown (2.5Y 3/2) silty clay, weak coarse subangular blocky to massive, firm sticky, pale coarse iron mottles, clear boundary.
265-290	3Ab/ABgb	Dark gray (2.5Y 4/1) silty clay, moderate very fine subangular blocky, friable sticky, gradual boundary.
290-350	3Bwggb	Gray (2.5Y 5/1) with light olive-brown (2.5Y 5/4) iron mottles, silty clay grading to silty fine sand, moderate medium subangular blocky, firm sticky, coarse iron mottles, medium sand below, gradual boundary.
350-410+	4Ab/Bwgb	Gray to light olive-brown (2.5Y 5/1-2.5 Y 5/3) silty fine sand, moderate very fine-medium subangular blocky, firm sticky, becoming sandier below. End in watery sand.

APPENDIX C
Illinois Archaeological Site Recording Form

ILLINOIS ARCHAEOLOGICAL SITE RECORDING FORM

County: Madison

Site Name: Helmkamp

Revisit: Y

Field Number:

State Site No.: 2025

Quadrangle (7.5'): Wood River

Date Recorded: 2004.05.17

LEGAL DESCRIPTION (to quarter quarter quarter section)

Align: 1/4s: N	SE	SE	SW	Section: 11 Township: 4 N Range: 9
Align: 1/4s: S	NE	SE	SW	Section: 11 Township: 4 N Range: 9
Align: 1/4s:				Section: Township: Range:
Align: 1/4s:				Section: Township: Range:

UTM Coordinates (by ISM): UTM Zone: UTM North:

UTM East:

Ownership: Private

ENVIRONMENT

Topography: Natural Levee

Elevation (in meters): 130

Nearest Water Supply: Cahokia Creek

Drainage: Mississippi

Soil Association:

Description: Natural levee likely associated with the Grassy Lake Meander system which formed as the Missouri/Mississippi River channel shifted within its meanderbelt

SURVEY

Project Name: BCA #1199

Site Area (square meters): 6000

Ground Cover (List up to 3): Cultivated

Visibility (%): 90

Survey Methods (List up to 2): Auger

Test Units

Standing Structures: N

Site Type (List up to 2): Habitation

SITE CONDITION

Extent of Damage: Moderate

Main Cause of Damage: Agriculture

MATERIAL OBSERVED

Number of Prehistoric Artifacts (count or estimate): 500

Number of Historic Artifacts (count or estimate): 0

Prehistoric Diagnostic Artifacts: Y

Historic Diagnostic Artifacts: N

Prehistoric Surface Features: Y

Historic Surface Features:

Description: 400+ flaking debris, 100+ burned bone bits, 42 chipped stone tools (projectile points, scrapers, knives, spokeshave, unfinished bifaces), 1 cobble hammer/grinder/bipolar hammer, 29 FCR, five potsherds, 9 burned earth

TEMPORAL AFFILIATION (check all that apply)

Prehistoric Unknown: Late Archaic: Y

Mississippian:

Colonial (1673-1780):

Paleoindian: Woodland:

Upper Mississippian:

Pioneer (1781-1840):

Archaic: Early Woodland: Y

Protohistoric:

Frontier (1841-1870):

Early Archaic: Middle Woodland:

Historic Native American:

Early Industrial (1871-1900):

Middle Archaic: Late Woodland: Y

Historic (generic):

Urban Industrial (1901-1945):

Description: Stemmed projectile points, Marion ware pottery, Late Woodland pottery

Post-War (1946-present):

Surveyor: J. B. Thompson

Institution: BCA

Survey Date: 5/2004

Curation Facility: ISM

Site Report by: Thompson, Benn

Institution: BCA

Date: 6/2004

IHPA Log No.:

IHPA First Sur. Doc. No.:

Compliance Status:

NRHP Listing: N

APPENDIX D
Catalog Sheets

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist
David W. Benn

Principal Lab Archeologist
David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature Surface	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
1	FD 6 primary flakes, 7 g; 13 tertiary flakes, 8 g; 2 edge rejuvenation flakes, .5 g; 6 flake fragments, 4.4 g; 6 shatter 16 g	33		surface	previous survey
2	CST utilized tertiary flake, 7 g	1		surface	previous survey
3	CST utilized flake fragment, .1 g	1		surface	previous survey
4	CST utilized flake fragment, 4.4 g	1		surface	previous survey
5	CST projectile point/knife, 9.6 g	1		surface	previous survey
6	CST bifacial tool, perforator, .8 g	1		surface	previous survey
7	IR 1 limestone, 55.5 g; 1 quartzite, 6.4 g	2		surface	discarded
8	FD 2 thinning flakes, 1 g; 1 edge rejuvenating flake, .2 g	3	trench 1 general		previous survey
9	POT sand tempered sherd, 1.2 g	1	trench 1 general		previous survey
10	FD flake fragment, 3.2 g	1	trench 2 general		previous survey
11	IR limestone, 1.5 g	1	trench 2 general		discarded
12	COR working core, 45.7 g	1	trench 2 plowzone base	35 cm	previous survey
13	FD 1 tertiary flake, 12 g; 1 shatter, .5 g	2	trench 2 plowzone base	35 cm	previous survey
14	CST utilized tertiary flake, 17.2 g	1	trench 2 below plowzone	50 cm	previous survey

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No.	11MS2025	Site No.	11MS2025	Site Name	Helmkamp Site
Contractor/Sponsor	U.S. Army Corps of Engineers District, St. Louis	Principal Field Archeologist	David W. Benn	Principal Lab Archeologist	David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
15	COR working core, 45.6 g	1	trench 2	53 cm	previous survey
16	UBO bone fragments	9	trench 2	79 cm	previous survey
17	CC charcoal	5	trench 2	120 cm	previous survey
18	CC charcoal	1	trench 2	122 cm	previous survey
19	FD 3 tertiary flakes, 1.3 g; 3 edge rejuvenation flakes, .3 g; 4 flake fragments, .1 g ; 1 shatter, .4 g	11	trench 2	feature 105 122 cm	previous survey
20	UBO bone fragments, .3 g	5	trench 2	feature 105 122 cm	previous survey
21	CC charcoal, .05 g	1	trench 2	feature 115 122 cm	previous survey
22	FD 2 thinning flakes; 24 shatter	26	trench 2	feature 115 122 cm	previous survey
23	UBO bone fragments, .1 g	5	trench 2	feature 115 122 cm	previous survey
24	CST biface, 98.1 g	1	trench 3	plowzone base	previous survey
25	IR sandstone	10	trench 3	plowzone base	previous survey
26	POT sand tempered sherds, 19.6 g	10	trench 3	plowzone base	previous survey
27	CC charcoal, .05 g	1	trench 3	below plowzone	65 cm previous survey
28	CC charcoal, .05 g	3	trench 3	100-105 cm	previous survey
29	UBO bone fragments	28	trench 3	100-105 cm	previous survey
30	HF waterscreen heavy fraction, 46.1 g	1	core 1	S-1 sample top 2 inches	previous survey discarded

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
31	HF waterscreen heavy fraction, .33 g	1	core 1	S-1 sample middle 1 inch	previous survey discarded
32	HF waterscreen heavy fraction, .05 g	1	core 1	S-1 sample bottom 3 inches	previous survey discarded
33	HF waterscreen heavy fraction, 1 g	1	core 1	S-4 sample 20-22 inches	previous survey discarded
34	HF waterscreen heavy fraction, 7.9 g	1	core 1	S-2 sample top	previous survey discarded
35	HF waterscreen heavy fraction, .05 g	1	core 1	S-2 sample main part	previous survey discarded
36	FD flake fragment, Burlington chert, .4 g	1		BA A-6 30-35 cm	5/18/04 Art
37	UBO unidentified burned bone fragment, .1 g	1		BA A-8 60-70 cm	5/18/04 Art
38	FD flake fragment, Burlington chert, .1 g	1		BA B-1 20-30 cm	5/19/04 EEB/SH
39	FD interior flake, Burlington chert, .7 g	1		BA B-2 20-30 cm	5/19/04 EEB/SH
40	FD 1 tertiary thinning flake, Burlington chert, .3 g; 1 flake fragment, Burlington chert, .1 g; 1 flake fragment, unknown chert, .1 g	3		BA B-2 60-70 cm	5/19/04 EEB/SH
41	FD flake fragments, Burlington and other chert types, 4.2 g	364		BA B-2 60-70 cm	5/19/04 EEB/SH heavy fraction 3.5 liter sample

Catalog Sheet - Bear Creek Archeology, Inc.

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Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District: St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
42	FD interior flake, Burlington chert, 1.1 g	1		BA C-5	5/19/04 Art
43	FCR sandstone, 1.4 g	1	TU 1	0-20 cm	5/19/04 discarded DBenn
44	CST biface, Delhi or Robbins straight stemmed point, Burlington chert, 10 g	1	TU 1	45 cm	5/19/04 DBenn
45	CST flake tool, scraper, Burlington chert, 3.5 g	1	TU 1	52 cm	5/19/04 DBenn
46	CST flake tool, knife, Burlington chert, 24.9 g	1	TU 1	87 cm	5/19/04 DBenn
47	FCR 2 granite, 19.3 g; 1 fine-grained igneous, 63.4 g	3	TU 1	0-125 cm	5/19/04 discarded DBenn
48	FD 2 interior flakes, .7 g; 1 secondary thinning flake, 1.1 g; 1 flake fragment, .1 g; 1 shatter, .2 g; Burlington chert	5	NW quad	0-125 cm	5/19/04 DBenn
49	FD 1 secondary thinning flake, Burlington chert, .5 g; 3 flake fragments, Burlington chert, 1.4 g; 2 shatter, unknown chert, 1.5 g	6	TU 1	0-125 cm	5/19/04 DBenn
50	CST flake-tool scraper, Burlington chert, 3.1 g	1	TU 2	20 cm	5/20/04 SH
51	CST flake-tool, knife, Burlington chert, 1.2 g	1	TU 2	38 cm	5/20/04 SH

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
52	CST flake-tool, knife, Burlington chert, 1.1 g	1	TU 2	48 cm SH	5/20/04 SH
53	FCR chert, 2.3 g	1	TU 2	0-90 cm SH	5/20/04 discarded
54	CST unfinished biface, Burlington chert, 68.5 g	1	TU 3	25 cm EEB	5/20/04 EEB
55	CST flake-tool, scraper, Burlington chert, .3 g	1	TU 3	30 cm EEB	5/20/04 EEB
56	CST uniface, spokeshave, Burlington chert, 31.4 g	1	TU 3	42 cm EEB	5/20/04 EEB
57	CST unfinished biface, Burlington chert, 36.7 g	1	TU 3	45 cm EEB	5/20/04 EEB
58	CST flake-tool, knife, St. Genevieve chert, .4 g	1	TU 3	47 cm EEB	5/20/04 EEB
59	CST flake-tool, scraper, Burlington chert, .7 g	1	TU 3	52 cm EEB	5/20/04 EEB
60	FD 2 flake fragments, Burlington chert, .3 g; 1 secondary thinning flake, Salem chert, .05 g	3	TU 3	0-15 cm EEB	5/20/04 EEB
61	FCR 3 medium-dark gray chert, 6.5 g; 19 cherry limestone, 352.3 g; 3 St. Louis chert, 6.3 g; 1 granite, 1.7 g	26	TU 3	0-110 cm EEB	5/20/04 discarded

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____	Site No. <u>11MS2025</u>	Site Name <u>Helmkamp Site</u>
Contractor/Sponsor <u>U.S. Army Corps of Engineers</u> District. St. Louis	Principal Field Archeologist <u>David W. Benn</u>	Principal Lab Archeologist <u>David W. Benn</u>

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
62	FD 2 secondary thinning flakes, .36 g; 1 tertiary thinning flake, .2 g; 2 interior flakes, .4 g; 4 flake fragments, .2 g; 7 shatter, 18 g; Burlington chert	19	TU 3	0-110 cm	5/20/04 EEB
63	UBO unidentified burned bone fragment, .1 g	1	TU 3	0-110 cm	5/20/04 EEB
64	POT Late Woodland pottery fragments, 2.8 g	4	TU 3	0-110 cm	5/20/04 EEB
65	BE burned earth fragments, 2.3 g	9	TU 3	0-110 cm	5/20/04 EEB 8 liter sample
66	FCR cherty limestone fragments, 2 g	7	TU 3	0-110 cm	5/20/04 EEB discarded
67	FD miscellaneous flakes, Burlington and Salem chert, 2 g	38	TU 3	0-110 cm	5/20/04 EEB 8 liter sample
68	UBO unidentified burned bone fragments, .05 g	2	TU 3	0-110 cm	5/20/04 EEB 8 liter sample
69	FD flake fragments, Burlington and Salem chert, 1.3 g	15	TU 3	0-110 cm	5/20/04 EEB 16 liter float
70	FD miscellaneous flakes, varied chert types, .3 g	12	TU 3	0-110 cm	5/20/04 EEB heavy fraction 12 liter sample

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____ Site No. 11MS2025 Site Name Helmkamp Site

Contractor/Sponsor U.S. Army Corps of Engineers Principal Field Archeologist David W. Benn Principal Lab Archeologist David W. Benn

District, St. Louis

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
71	FCR 1 sandstone, 11.9 g; 1 fine/medium-grained igneous, 82.9 g; 1 medium-grained igneous, 4.7 g	3	TU 4	0-90 cm	5/20/04 Art discarded
72	CST flake-tool, scraper, Salem chert, 1.7 g	1	TU 5	0-20 cm	5/20/04 DBenn
73	FD flake fragment, Burlington chert, .8 g	1	TU 5	0-20 cm	5/20/04 DBenn
74	CST flake-tool, knife, Burlington chert, 1.2 g	1	TU 5	27 cm	5/20/04 DBenn
75	FD flake fragment, Burlington chert, 1.1 g	1	TU 5	0-110 cm	5/20/04 DBenn
76	FD flake fragment, Burlington chert, .1 g	1	TU 6	0-110 cm	5/21/04 Art
77	FCR fine/medium-grained igneous, 4.7 g	1	TU 7	0-110 cm	5/21/04 SH discarded
78	FD flake fragments, Burlington chert, 1.1 g	2	TU 9	0-30 cm	5/22/04 Art
79	CST flake-tool scraper, Burlington chert, .8 g	1	TU 9	57 cm	5/22/04 Art
80	CC charcoal, 1.2 g	1	TU 9	0-110 cm	5/22/04 Art
81	FCR medium-grained igneous, 60.4 g	1	TU 9	0-110 cm	5/22/04 Art discarded

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
82	FD 2 interior flakes, .8 g; 3 tertiary thinning flakes, .4 g; 2 pressure flakes, 2 g; 13 flake fragments, 3.6 g; 6 shatter, 8.2 g; Burlington chert 1 primary decortication flake, .7 g; 1 flake fragment, .1 g; Salem chert 1 flake fragment, St. Genevieve chert, .2 g 2 flake fragments, .2 g; 1 shatter, .7 g; unknown chert,	32	TU 9	0-110 cm Art	5/22/04
83	CST flake-tool scraper, Burlington chert, 4.1 g	1	TU 10	47 cm	5/22/04 EEB
84	FCR sandstone, very friable, 4.1 g	1	TU 10	0-110 cm EEB	5/22/04 discarded
85	CST flake-tool, knife, St. Genevieve chert, 9.7 g	1	SE quad	TU 11	90 cm EEB
86	CC charcoal, 1.2 g	1		TU 11	0-110 cm EEB
87	FCR fine/medium-grained igneous, 35.9 g	1		TU 11	0-110 cm EEB
88	CC charcoal, .05 g	1		TU 11	0-110 cm EEB
89	UBO unidentified burned bone fragments, .8 g	37	TU 11	0-110 cm EEB	5/24/04 heavy fraction 3 liter sample 3 liter sample

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No.

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
90	UBO unidentified burned bone fragments, .4 g	52	TU 11	0-110 cm EEB	5/24/04 heavy fraction 8 liter sample
91	CST biface, Gary contracting stemmed point base, 3.5 g	1	NE quad	TU 12 29 cm SH	5/23/04
92	FCR fine/medium-grained igneous, 33.5 g	1		TU 12 0-110 cm SH	5/23/04 discarded
93	FD 1 interior flake, .7 g; 2 flake fragments, 1.7 g: Burlington chert 1 tertiary thinning flake, .2 g; 1 secondary thinning flake, .5 g: unknown chert	5	TU 12	0-110 cm SH	5/23/04
94	CST flake-tool, scraper, Burlington chert, 1.7 g	1	TU 13	0-30 cm Art	5/23/04
95	FD shatter, Burlington chert, 1.1 g	1	TU 13	0-30 cm Art	5/23/04
96	CST flake-tool, notch, Burlington chert, 5.3 g	1	TU 13	36 cm Art	5/23/04
97	CST flake-tool, scraper, Burlington chert, 1.6 g	1	TU 13	36 cm Art	5/23/04
98	CST biface, adz, Burlington chert, 24.2 g	1	TU 13	36 cm Art	5/23/04
99	CST biface, untyped stemmed or notched projectile point, Burlington chert, 11 g	1	TU 13	36 cm Art	5/23/04
100	CST unfinished biface, Burlington chert, 13.1 g	1	TU 13	38 cm Art	5/23/04

Catalog Sheet - Bear Creek Archeology, Inc.

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Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
101	BE burned earth fragment, .8 g	1	TU 13	30-40 cm	5/23/04 Art
102	CST unfinished biface, Burlington chert, 57 g	1	TU 13	46 cm	5/23/04 Art
103	CST flake-tool, scraper, St. Genevieve chert, 3.1 g	1	TU 13	53 cm	5/23/04 Art
104	CST flake-tool, scraper, Burlington chert, .3 g	1	TU 13	64 cm	5/23/04 Art
105	BE burned earth fragment, 1.8 g	1	TU 13	0-130 cm	5/23/04 Art
106	FCR 1 granite, 1.8 g; 1 sandstone, 5.1 g	2	TU 13	0-130 cm	5/23/04 discarded
107	FD 1 pressure flake, .1 g; 1 tertiary thinning flake, .4 g; 1 secondary decortication flake, 2.1 g; 9 flake fragments, 10.4 g; 6 shatter, 4.9 g; Burlington chert	23	TU 13	0-130 cm	5/23/04 Art
	1 tertiary thinning flake, unknown chert, .2 g				
	1 interior flake, .6 g; 1 primary thinning flake, 6.8 g; 1 flake fragment, 6.4 g; 1 shatter, 2 g; Salem chert				
108	POT Early Woodland Marion pottery sherd, 39.2 g	1	TU 13	0-130 cm	5/23/04 Art
109	UBO unidentified burned bone fragment, .3 g	1	TU 13	0-130 cm	5/23/04 Art

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No.

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist
David W. Benn

Principal Lab Archeologist
David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature Surface	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
110	FD flake fragment, Burlington chert, .05 g	1	TU 13	110-120 cm Art	5/23/04 heavy fraction 10 liter sample
111	UBO unidentified burned bone fragment, .05 g	1	TU 13	110-120 cm Art	5/23/04 heavy fraction 10 liter sample
112	FD miscellaneous flakes, varied chert types, .1 g	3	TU 13	120-130 cm Art	5/23/04 heavy fraction 10 liter sample
113	CST biface, knife (possible projectile point tip), Burlington chert, 3.9 g	1		surface	5/18/04 general surface ca. 6-6.5 m N-NW of TU 13
114	FCR basalt, 359.5 g	1	N: 5133.91 E: 5095.05	surface	5/18/04 discarded
115	IR unmodified limestone, 44.1 g	1	N: 5114.72 E: 5083.29	surface	5/18/04 discarded
116	FD shatter, Salem chert, 1.3 g	1	N: 5088.97 E: 5073.71	surface	5/18/04
117	FCR fine-grained igneous, 45.2 g	1	N: 5097.25 E: 5064.37	surface	5/18/04 discarded
118	FD shatter, Burlington chert, 7.9 g	1	N: 5070.73 E: 5038.20	surface	5/18/04
119	IR unmodified fine-grained igneous, 196.7 g	1	N: 5067.24 E: 5040.74	surface	5/18/04 discarded
120	FD flake fragment, Burlington chert, .4 g	1	N: 5052.00 E: 5035.10	surface	5/18/04
121	FD flake fragment, unknown yellow gravel, .3 g	1	N: 5048.39 E: 5032.44	surface	5/18/04
122	FD interior flake, Burlington chert, 1.8 g	1	N: 5045.07 E: 5025.56	surface	5/18/04

Catalog Sheet - Bear Creek Archeology, Inc.

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Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archaeologists, Remarks
123	FCR quartzite, 327.4 g	1	N: 5044.27 E: 5017.74	surface	5/18/04 discarded
124	FD shatter, Burlington chert, 1.9 g	1	N: 5036.16 E: 5027.15	surface	5/18/04
125	FD primary thinning flake, Burlington chert, 3.1 g	1	N: 5034.60 E: 5025.10	surface	5/18/04
126	CST flake-tool, knife, Salem chert, 1.3 g	1	N: 5032.07 E: 5014.47	surface	5/18/04
127	FD core trimming element, Burlington chert, 3.8 g	1	N: 5030.59 E: 5012.60	surface	5/18/04
128	CST flake-tool, scraper, St. Genevieve chert, 1 g	1	N: 5026.61 E: 5015.72	surface	5/18/04
129	CST flake-tool, knife, Burlington chert, .9 g	1	N: 5027.50 E: 5008.81	surface	5/18/04
130	CST flake-tool, scraper, Salem chert, 9 g	1	N: 5024.84 E: 5028.77	surface	5/18/04
131	CST flake-tool, scraper, Burlington chert, .5 g	1	N: 5023.86 E: 5024.52	surface	5/18/04
132	FD flake fragment, unknown chert, .4 g	1	N: 5010.99 E: 5028.37	surface	5/18/04
133	CST flake-tool, scraper, 1 g	1	N: 5008.85 E: 5024.52	surface	5/18/04
134	FD shatter, St. Louis chert, 1.6 g	1	N: 5009.01 E: 5024.41	surface	5/18/04
135	CST flake-tool, knife, Salem chert, 3.5 g	1	N: 5010.72 E: 5020.59	surface	5/18/04

Catalog Sheet - Bear Creek Archeology, Inc.

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Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
136	CST flake-tool, scraper, Burlington chert, 3.5 g	1	N: 5015.71 E: 5018.51	surface	5/18/04
137	CST flake-tool, knife, Burlington chert, 2.5 g	1	N: 5011.57 E: 5008.39	surface	5/18/04
138	FD flake fragment, Burlington chert, .6 g	1	N: 5009.66 E: 5015.10	surface	5/18/04
139	COB hammer/grindet/bipolar hammer, basalt, 451.2 g	1	N: 5021.93 E: 5032.76	surface	5/18/04
140	FD shatter, Salem chert, 1.3 g	1	N: 5095.53 E: 5071.96	surface	5/18/04
141	CST flake-tool, scraper, Burlington chert, 1.3 g	1	N: 5010.63 E: 5035.77	surface	5/18/04
142	FD secondary thinning flake, Burlington chert, .8 g	1	N: 5012.46 E: 5037.46	surface	5/18/04
143	FD shatter, Burlington chert, 4.8 g	1	N: 5000.73 E: 5046.16	surface	5/18/04
144	CST flake-tool, scraper, St. Genevieve chert, 2.8 g	1	N: 5010.60 E: 5043.90	surface	5/18/04
145	FCR fine-grained igneous, 39.4 g	1	N: 5014.37 E: 5035.35	surface	5/18/04
146	FD tertiary thinning flake, Burlington chert, 1 g	1	N: 5017.83 E: 5032.44	surface	5/18/04
147	CST flake-tool, scraper, St. Genevieve chert, 1.1 g	1	N: 5025.26 E: 5013.73	surface	5/18/04
148	CST flake-tool, scraper, Burlington chert, 1.1 g	1	N: 5035.73 E: 5012.48	surface	5/18/04

Catalog Sheet - Bear Creek Archeology, Inc.

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Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

U.S. Army Corps of Engineers
District, St. Louis

Principal Field Archeologist

David W. Benn

Principal Lab Archeologist

David W. Benn

Catalog Number	Specimen Category	Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
149	FD	flake fragment, Burlington chert, .9 g.	1	N: 5054.98 E: 5036.55		surface 5/18/04
150	FD	flake fragment, Salem chert, .3 g	1	N: 5073.95 E: 5044.39		surface 5/18/04
151	FD	shatter, Burlington chert, .8 g	1	N: 5088.91 E: 5072.49		surface 5/18/04
152	FD	flake fragment, Burlington chert, .2 g	1	N: 5079.31 E: 5076.06		surface 5/18/04
153	FD	shatter, Burlington chert, 7.2 g	1	N: 5058.23 E: 5056.10		surface 5/18/04
154	FD	secondary thinning flake, Burlington chert, 1.1 g	1	N: 5033.77 E: 5042.72		surface 5/18/04
155	FD	flake fragment, Burlington chert, .1 g	1	N: 5022.49 E: 5011.08		surface 5/18/04
156	FD	flake fragment, Burlington chert, .1 g	1	N: 5022.47 E: 5011.21		surface 5/18/04
157	FD	shatter, Burlington chert, 23.5 g	1	N: 5022.80 E: 5011.46		surface 5/18/04
158	CST	flake-tool, scraper, Salem chert, .5 g	1	N: 5041.44 E: 5031.49		surface 5/18/04
159	FD	flake fragment, Burlington chert, .1 g	1	N: 5038.58 E: 5038.64		surface 5/18/04
			948			

Catalog Sheet - Bear Creek Archeology, Inc.

Accession No. _____

Site No. 11MS2025

Site Name Helmkamp Site

Contractor/Sponsor

Principal Field Archeologist
St. Louis Corps of Engineers
David Benn

Principal Lab Archeologist

David Benn

**Specimen Category
Specimen Description**

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
160	CER plain whiteware, body sherd, 2.1 g	1			surface 11/30/04 crew
161	COR double platform core, Burlington chert, 117.2 g	1			surface 11/30/04 crew
162	COR core, Burlington chert, 266.3 g	1			surface 11/30/04 crew
163	COR core fragment, Burlington chert, 20.2 g	1			surface 11/30/04 crew
164	CST utilized flake, graver/scaper, Burlington chert, 10.5 g	1			surface 11/30/04 crew
165	CST utilized flake, graver/scaper, Salem chert, 10.5 g	1			surface 11/30/04 crew
166	FD 2 interior flake, Salem chert, 6 g; 3 primary thinning flakes, Burlington chert, 4.6 g; 2 primary thinning flakes, Salem chert, 1.4 g; 4 secondary thinning flakes, Burlington chert, 1.1 g; 5 flake fragments, Burlington chert, 3 g	16			surface 11/30/04 crew
167	UBO unidentifiable bone fragment, .1 g	1			surface 11/30/04 crew
168	FD primary thinning flake, Burlington chert, .6 g	1	TU 1W	10-20 cm	11/30/04 EB
169	FD 1primary thinning flake, Burlington chert, .6 g; 1 flake fragment, Salem chert, .4 g	2	TU 2W	45-50 cm	11/30/04 DBenn
170	CST scraper fragment, Burlington chert, .4 g	1	TU 3W	20-30 cm	11/30/04 MB

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Site Name Helmkamp Site

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Principal Lab Archeologist

David Benn

Catalog Number	Specimen Category Specimen Description	No. of Artifacts	Area/Unit/Feature	Depth Below Surface	Fieldwork Date, Field Archeologists, Remarks
171	FD primary thinning flake, Salem chert, .5 g	1	TU 3W	20-30 cm MB	11/30/04
172	FD 1 shatter, Burlington chert, 1 g; 1 primary thinning flake, Salem chert, 2.1 g; 1 flake fragment, Salem chert, 1.4 g; 1 flake fragment, Burlington chert, 2 g	4	TU 3W	30-40 cm MB	11/30/04
173	FCR fine-grained igneous, 7.3 g	2	TU 3W	40-50 cm discarded	12/1/04 MB
174	FD 1 shatter, Salem chert, 1.5 g; 4 flake fragments, Burlington chert, .5 g; 2 flake fragments, Salem chert, .3 g; 1 interior flake, Salem chert, 5.4 g; 1 interior flake, Burlington chert, .9 g; 1 secondary thinning flake, Burlington chert, .3 g; 2 secondary thinning flakes, Salem chert, .8 g	12	TU 3W	40-50 cm MB	12/1/04 MB
175	FD 1 flake fragment, Burlington chert, .1 g; 1 primary thinning flake, Burlington chert, .7 g; 1 primary thinning flake, Salem chert, .6 g	3	TU 3W	50-60 cm MB	12/1/04
176	FD primary thinning flake, Burlington chert, .5 g	1	TU 3W	60-70 cm MB	12/1/04
177	FD secondary thinning flake, .3 g	1	TU 3W	90-100 cm MB	12/1/04
178	FD flake fragment, Burlington chert, .8 g	1	TU 5W	50 cm DBenn	12/1/04
179	FD flake fragment, Burlington chert, 1 g	1	TU 6W	20-30 cm DB	12/1/04
		53			

APPENDIX E
Radiocarbon Dating

Radiocarbon Date Comment Form
Illinois State Geological Survey
615 East Peabody Drive
Champaign, Illinois 61820
Telephone: (217) 244-2192

ISGS-5722

Age: 3970 ± 110 Radiocarbon Years BP

$$\delta^{13}\text{C} = -24.7 \text{ per mil PDB}$$

Sample: 11ms2025 core 2

Site: Helmkamp

Material: Charcoal .

Location: South Roxana

County: Madison State: IL Country: U.S.A.

Latitude: 90°04'08" N Longitude: 38°48'36" W

Stratigraphic Position:
From 3.6 m deep in mid-Holocene Terrace on top of backswamp deposits.

Submitted by: David Benn

Submitters Institution: Bear Creek Archeology INC

Year collected: 2004 By: David Benn

Comment By (initials only): _____

Please check this form for accuracy, fill in any blanks, and return to
the ISGS within two weeks (see reverse side for instructions).
January 31, 2005

NOTICE TO THE SUBMITTER

The information on the reverse side of this form is to be submitted for publication in the journal, RADIOCARBON. Please check to see that all information is correct and complete, and add your comment as to the significance of the date. Your comment should be brief but informative, and should point out why the sample was worth dating. A recent issue of RADIOCARBON may be used as a guide.

If the ISGS has completed a series of age determinations for you from the same locality, use another sheet to give a general comment summarizing the significance of the determinations as a whole. It may be necessary to edit your comment before publication, but any changes which could affect the meaning will be cleared with you.

As there are a great many man-hours that go into determining each date, your careful consideration of the result will be appreciated. If for some reason you would prefer to have this date published without a comment, write "no comment" on the form and sign it. **Completed forms should be returned within 2 weeks to:**

Dr. Hong Wang
Illinois State Geological Survey
615 East Peabody Drive
Champaign, IL 61820

If you have any questions concerning the date reported or the completion of this form, please feel free to call us.

NOTE: The date reported is a "conventional" radiocarbon date and refers to **Radiocarbon Years** before the reference year A.D. 1950. The date has been corrected for isotopic fractionation, but has not been corrected for the error in the half-life of ^{14}C , or for variations in the atmospheric concentration of ^{14}C . For this reason, the age in Radiocarbon Years may not be exactly equal to the age in solar years, or calendar years. Because use of the B.C.-A.D. time scale implies that the date is in terms of calendar years, **it is urged that the date not be converted to the B.C.-A.D. time scale until after the above mentioned corrections have been applied.**

Ages reported as greater than (>), are minimum ages only. For ages reported as MODERN, the numbers given refer only to the ^{14}C activity of the sample and should not be interpreted as indicating an age in years.

ILLINOIS STATE GEOLOGICAL SURVEY

615 East Peabody Drive

Champaign, IL 61820

(217) 333-4747

A

REQUEST FOR RADIOCARBON AGE DETERMINATION

(Use separate sheet for each sample and TYPE or PRINT)

Date 19 Dec 2004Name of Section or site HelmkampYour sample number 11MS2025 core 2 Weight of sample (dry) +10 gmsMaterial to be analyzed charcoalMaterial from which sample was taken drill core in alluviumLocation: County Madison State IL Country USASE 1/4 SE 1/4 SW 1/4 Section 11 Township 4N Range 9W90° 04' 8" Latitude, 38° 48' 36" LongitudeDirection and distance (km) from nearest town South Roxana

Stratigraphic unit, position, and thickness, or relationship with cultural materials (make sketch; use metric units)

3.6m deep in mid-Holocene Terrace
on top of backswamp deposits

Collected by D Benn Date collected 1 Dec 2004Name and address of person requesting analysis David Benn Bear CreekArchaeology Inc PO Box 347 Cresco Ia 52136Type of project archeologySignificance of sample dates bottom of terrace

BCA-1230

Your sample no. IIMS 2025
County Madison

ISGS no. 5722
Request no. 23812
Lab no. D-4648

Reference to relevant publications on geology of the area Itajic in
Arch. of The Ringering Site Transportation Arch. Res. Report No 8
of IL-Champaign

Foreign matter or geological factors that may contribute to anomalous age (rootlets,
leaching, prolonged atmospheric exposure)

Sampling technique and post-sampling treatment drill core

Is more sample available No

Expected age +2000 RCYBP Range _____ to _____

Previously dates from same or adjacent horizon _____

AUTHORIZATION FOR ANALYSIS

ISGS: 5722

Age 3970 ± 110 RCABP

$\delta^{13}\text{C}$ $-24.7 \pm 0.5\text{‰}$

1/31/05

Hong Wang